

American Fruit Grower

WESTERN EDITION

JUNE • 1958



- Vertical Integration
- Peach Picture for 1958
- Western Pear Problems
- Frost-Proofing Berries
- Cherry Leaf Spot Control

What Growers Are Learning About Sprinkler Irrigation



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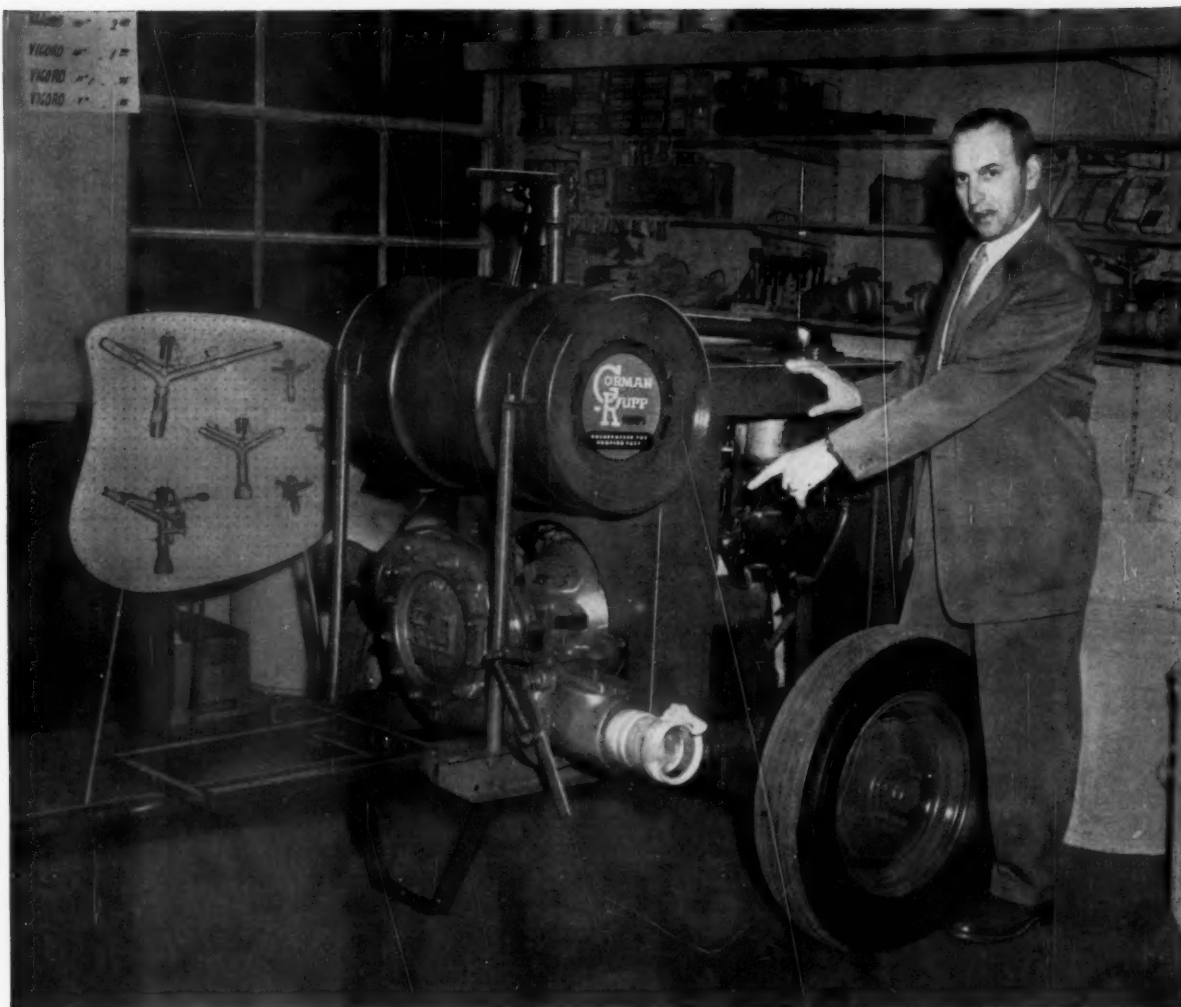


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Cover photograph, courtesy SCS, shows sprinkler irrigation in a California apricot orchard.

American Fruit Grower

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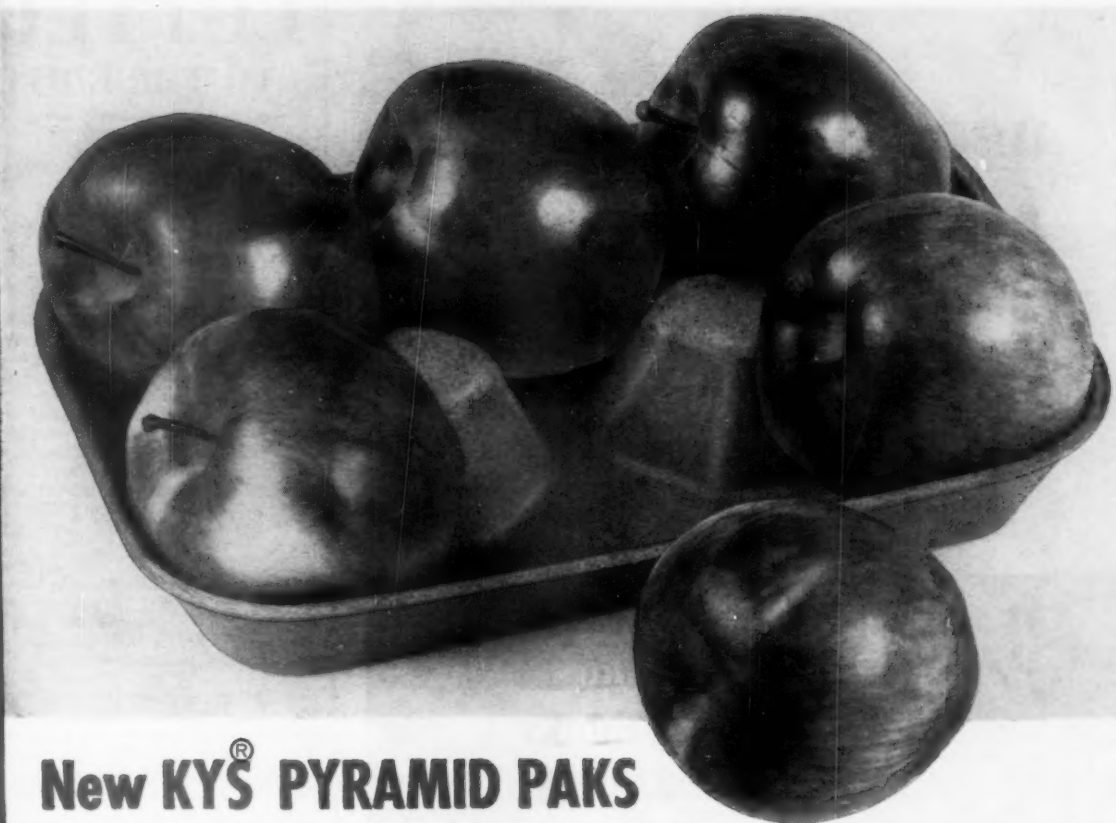
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LETTERS TO THE EDITOR

A New View of Apple Problems

Dear Editor:

The time has come when apple people should start asking themselves some soul-searching questions such as:

1) Can we honestly afford to blame the 1957-58 marketing difficulties on national, regional, and state apple organizations?

2) Can we afford to weaken and thereby practically destroy the usefulness of some of these organizations by destructive criticism?

3) Can we afford to dismantle and do away with existing promotional organizations and follow the magnificent, but unfortunately still distant, plan of a multi-million dollar national advertising setup designed to replace everything we now have and magically bring peace and prosperity to the apple industry?

The history of most successful national promotional organizations in other fields clearly shows that they were set up to co-ordinate and supplement rather than to replace smaller organizations. In fact, smaller organizations usually joined forces to build the national setups and then become the actual controlling power behind the top organizations by reason of their financial support and basic grassroots contact with the thousands of individuals who put up the money and therefore are, in effect, the stockholders.

It is the writer's privilege to be serving on the board of directors of a number of apple organizations, including International Apple Association, National Apple Institute, Appalachian Apple Service, and the West Virginia Horticultural Society. I believe in the principles, objectives, and usefulness of each one of these organizations, and have gladly subscribed time and money to their programs as a business investment.

What now gives officers and elected directors of these organizations great concern is the fact that some people in the industry are strongly and, we believe, unfairly claiming that today's marketing difficulties are entirely due to the ineffectiveness of existing advertising and promotional organizations, and that some of them should therefore either be done away with or given less support.

For a long time some of our more far-sighted leaders have preached that the seven years of plenty would be followed by a time of great trouble unless apple people wake up and become smart enough to adopt and enforce quality control and then put up enough money to advertise a sounder, more attractive product. It is most unfortunate that these warnings were disregarded during recent years of short crops and unprecedented buying power.

Now that the wolf is literally sniffing at the door of many apple people is it wise or even safe to start throwing rocks at each other and at the organizations we set up with our own hands and then too often proceeded to keep on starvation rations by withholding sufficient financial support?

Today the apple industry of America has some big common problems. Would it not be wise for selected leaders from the commercial apple producing areas to sit down together and spend the necessary time earnestly considering the situation

AMERICAN FRUIT GROWER

from all angles and searching for practical, workable answers?

A number of remedies have been suggested, such as improved grade and condition standards, maturity controls, and consolidation of existing organizations. These and other ideas now available look good enough to at least justify careful examination. But the great outstanding problem of how to sell more apples at better prices is no simple matter. It is highly improbable that any one person is smart enough and big enough to find and spell out all the answers, but I am more than hopeful that the best minds in our industry working together in mutual confidence and faith can do the job.

State horticultural associations are well situated and qualified to arrange a nationwide council. They are not directly connected with advertising organizations, are completely grower owned and operated and consequently are in the right position to take the lead in an all out effort to find ways and means to put the apple industry on a sounder economic foundation.

As a grower, packer, and marketer of apples, I sincerely hope that this will help to generate interest, constructive thinking, and action. We have much to gain and nothing to lose by coming together. The question is, are we able and willing to work together on these serious problems or are we just going to stand quietly by and let the cold relentless law of competition and survival write the inevitable answers?

Paw Paw, W. Va.

Henry W. Miller, Jr.
Consolidated Orchard Co.

CALENDAR OF COMING MEETINGS & EXHIBITS

June 12—Small Fruits Day, Ohio Agricultural Experiment Station, Wooster.

June 14—Fourth Annual Long Island Strawberry Festival, Mattituck, N. Y.

June 18-20—National Apple Institute annual meeting, Hotel Woodner, Washington, D.C.—Truman Nold, Exec. Sec'y, Washington Bldg., Washington 5, D. C.

June 25-27—Entomological Society of America, Pacific branch, 42nd annual meeting, El Cortez Hotel, San Diego, Calif.

July 10-11—Indiana Horticultural Society annual summer meeting and orchard tour, Max Kercher's Sunrise Orchard Co., Goshen, Ind.—George A. Adrian, Sec'y, R. R. 4, Box 54-M, Indianapolis 44.

July 17—Pennsylvania, West Virginia, Maryland and Virginia state horticultural societies combined summer meeting, Moore and Dorsey properties, Berryville, Va.—John F. Watson, Sec'y, Staunton.

July 28-30—International Apple Association 64th Annual Convention, Queen Elizabeth Hotel, Montreal, Canada.—Association headquarters, 1302 18th St., N. W., Washington 6, D. C.

August 12-13—Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster.

August 14—Orchard Day, Ohio Agricultural Experiment Station, Wooster.

Aug. 20—Purdue University departments of horticulture and plant pathology Orchard Day, Purdue University, W. Lafayette, Ind.—R. B. Tukey, Assoc. in Horticulture, Purdue University.

Aug. 24-28—American Society for Horticultural Science annual meeting, University of Indiana, Bloomington, Ind.—Roy E. Marshall, Sec'y, Michigan State U., East Lansing.

Sept. 3—Soils and Crops Day, Ohio Agricultural Experiment Station, Wooster.

Sept. 8-9—United Fresh Fruit and Vegetable Association, tenth annual merchandising and management conference, Morrison Hotel, Chicago—association offices: 777 14th St., N.W., Washington 5, D.C.; 903 Grand Ave., Kansas City 6, Mo.

Sept. 9—Openhouse at new Ohio Agricultural Experiment Northwestern Substation, Hoytville, program on crops, tillage, and drainage.

Sept. 24-26—Florida Fruit and Vegetable Association 15th annual convention, Hotel Fontainebleau, Miami Beach.

Sept. 29-Oct. 1—Texas Citrus and Vegetable Growers and Shippers, Shamrock-Hilton Hotel, Houston.—Organization Headquarters, Harlingen.

JUNE, 1958



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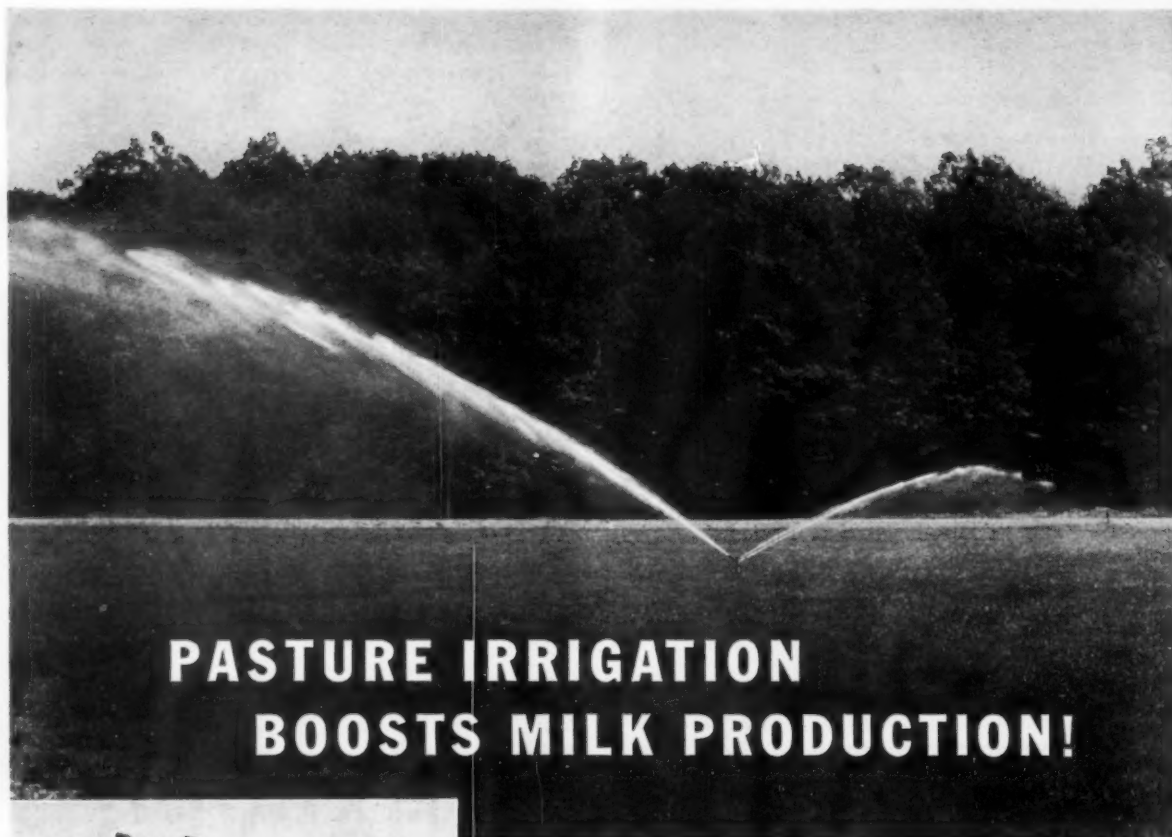
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A Marlow 6E6S, with a capacity range up to 1,300 G.P.M., pumps water to the fields where it is used.



This stream that runs through the Farm supplies water for Clarence Vleer's irrigation system.

This giant head sprinkler covers a 390 foot diameter circle and lays down .45 inches of water per hour.

Adequate Silage Provides For Winter Feeding

To Clarence Vleer, Middletown, New York, sprinkler irrigation is *the* reason why his 50 head of dairy cattle are well fed and their milk production is maintained at peak level. On his 120 acres, 20 are planted with corn, 15 in sudan and soy bean mix and the remainder with alfalfa and hay to provide adequate pasture as well as silage for winter feeding.

The system's designer, Edwin Sobiech, Irrigation Engineer of Unionville, N. Y., used 1,200 feet of 4" pipe, 900 feet of 5" pipe, a 400 G.P.M. giant-head sprinkler, 12 sprinklers rated at 30 G.P.M., and a Marlow 6E6S sprinkler-irrigation pump powered by a Chrysler engine. Water is taken from a small creek that runs through the farm and pumped over a $\frac{1}{4}$ mile where it is distributed by the sprinklers. According to Mr. Vleer, without dependable Marlow irrigation, his cows would not and *could not* produce all the milk they now do.

If you'd like more information on Marlow sprinkler irrigation, write today for Bulletin I-57 and the name of your Marlow dealer.



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AMERICAN FRUIT GROWER

VERTICAL INTEGRATION

What does it mean to the fruit grower?

The goal of vertical integration effort or contract farming is to keep a steady supply of food products going to market. What form, if any, this integration should take in the fruit industry is a moot question. Co-operative effort by growers is helping to solve some of today's distribution problems. Further efforts are pointed in this direction—efforts which will lead not only

to better selling methods but also to better production methods but which at the same time will permit the grower to retain his individuality. Dan Dalrymple, who is secretary of New York State Horticultural Society and manager of Pomona Fruit Farm in Lockport, N. Y., presents some of the interesting angles to this live and much discussed topic.

By **DAN M. DALRYMPLE**

WEBSTER'S definition of integration is the "act or process of making whole or entire". In other words, unification of effort.

Consolidating various phases of business to get more capital, to spread risks and overhead for better control over production and prices is not new. Recently such combinations have been going on at an increasing rate. Agribusiness, in which possibly a third of our population is employed—in processing, shipping, storing, wholesaling, and retailing our food as well as making and selling supplies and machinery—has been unifying for a long time. Earnings in these large enterprises are now as good as or better than in other big business.

The grower's cost of living is now as high and as resistant to price reduction as that of other workers. His farm costs refuse to drop.

It is not surprising, then, that growers, in an economic squeeze for several years, seem ready and anxious to trade their high cost, low income "freedom" for the economic stability

promised them by feed and fertilizer companies and by the contract and specification buying of processors and distributors. Unification of the broiler business with well-financed corporations furnishing capital, guidance for production, and a guaranteed market has been so spectacularly successful in a majority of cases that broiler meat is now cheaper than it has ever been, and the majority of farmers in this enterprise appear to be happy. Naturally, not all consolidations work; they are not all well-financed or well-managed.

There has been informal or temporary integration from time to time in the "high risk" fruit business. Dealers, brokers, or commissionmen have advanced capital to growers in order to obtain control of the growers' fruit. After a few bad years for the growers, this benevolent practice has actually financed entire areas.

The percentage of fruit land owned outright by large companies is not great but the tendency today is in this direction. Recently, a processor in one of our eastern states has come to own an extensive acreage of

cherry, apple, peach, and prune orchards. The corporation is also indirectly operating its own fertilizer and farm equipment business. Some of the former orchard owners are working for the firm and appear to be happy to have given up ownership of orchards, with attendant risks, in exchange for a steady wage.

Other corporations and processors have been tentatively trying out such operations. This consolidation of processing and growing is one form of vertical integration.

Another form of vertical integration is that undertaken by the growers themselves. An example of this is the grower-formed co-operative which recently bought out a processor.

In the case of the processor integration, if produce of the farms is paid for at the same level as independent growers are paid, the operation might, after a few poor years, follow the historic pattern and be broken up again, with the farms reverting to the original owners.

Efficiencies in modern day fruit growing may be so great that large
(Continued on page 36)

A Preview of the Peach Picture for 1958

Predicted shipments reflect planting trend in South toward "spreading the season" with early and late varieties

The purpose of this article and the table on the facing page is to present a convenient breakdown of the national peach crop by varieties, season, and state of origin. A similar summary was published in the June, 1957, issue of *AMERICAN FRUIT GROWER*.

In the table summarizing the situation at that time, the states were arranged from left to right in about the order in which a given variety ripens in the south to north

seasonal advance. On the left side of the table, the commercial varieties were listed approximately in the order in which they mature in a given location starting with the earliest ones. Elberta was used as a base.

This same plan was followed in revising the table this year, to see what important changes have occurred in the production picture as a result of the emphasis placed upon the newer early varieties.

By M. J. DORSEY
University of Illinois

GROWERS familiar with the peach deal know that there are many things to be taken into consideration in choosing a variety. The more important of these, at this time, seem to be: date of maturity, color of skin and flesh, freestone or cling, size, fruit bud hardiness, chilling requirements, and disease resistance.

The market, at the moment, prefers a red freestone, 2¼ inches or above in diameter, with yellow flesh. In the trade, emphasis is often placed on just "yellow frees." Other characteristics come into the picture, but these are given first consideration.

The table shows that 40 varieties are included in the national commercial list. These are the survivors in the elimination process extending over more than a century.

In deciding whether or not a variety should be included in the commercial list from a state, it was arbitrarily assumed that it should constitute at least 1% of the commercial production. The leaders in each of the states were asked for their recommendations on the commercial list and especially of recent shifts in the production picture. With this information at hand the national volume as arrived at during the guesstimate session of the National Peach Council convention last February in Columbia, S.C., was broken down by varieties as shown in the table.

Early Varieties—The peach harvesting season starts in May in Georgia and extends to October in the northern states or New York, Washington, Michigan, and Ontario.

This range in harvest brings out one of the most interesting features of the peach marketing problem. The earliest varieties from the earliest

southern states (Georgia, Alabama, South Carolina, North Carolina, Mississippi, and Arkansas) compete in the early market with the Kern County, California, crop. The higher prices received for the earliest peaches stimulate this competition. This trend is a development of the last eight or ten years. On the basis of the early volume coming from that state, there is justification for moving California into the "early states."

The essential features of the early deal can be seen in the table. During the first month or so of the season ahead of Dixigem, but including this variety, 4 million bushels are in prospect from varieties ordinarily classed as clings or semi-clings.

California's part in the picture centers around Merrill Gem at the moment, but other varieties from the Kern County area are also being pushed. Merrill Gem is included in the table for the first time.

Incidentally, California nectarine growers have given fair warning of their intention to claim "a place in the sun," and it might be worth giving this competition some thought.

Consumer Acceptance—The problem of the cling and semi-cling versus the freestone is bound to come to the fore on account of the heavy volume of both. Opinion among the leaders in regard to the new plantings of clings was sought to see which way the wind is blowing. The following quotations were selected as expressing the sentiment among the leaders:

For many purposes, the cling condition is a handicap. On the other hand, it is suggested by one grower that "perhaps we are using the wrong term"; he thinks that "melting" or "non-melting flesh" might be better.

The extra carrying capacity of the cling varieties may make up for a part of the handicap in selling. So,

an open mind should be kept on this problem until further experience with it is gained in the trade. At some of the roadside stands "the demand for the cling is increasing."

One Missouri grower comments on the tendency toward "sticking" as follows: "I feel sure that any tendency toward sticking or semi-cling is objectionable to the average consumer."

Another leader says: "It has been my experience that the stores and the customers accept them perhaps with not quite the satisfaction with which the complete freestone is accepted. If they are early and can be classified as semi-free rather than semi-cling, it seems to satisfy about 90% of the people to whom we sell."

A California leader writes: "The regular canning cling peach varieties are not being shipped to the fresh fruit markets except on special orders. However, the semi-freestone peach which includes most of our early varieties, has a very depressing effect on the market, especially the varieties which lack shipping quality, flavor, and appearance. The semi-freestones with a melting flesh of good quality and flavor are finding a very ready market."

Planting Activity—Some of the southern states, Georgia and Alabama, are really coming along with the early red varieties. For instance, in the trees one to three years of age, which include those set last year, the early types make up the present percentages: Cling or semi-cling—Dixired, 83%; Coronet, 52%; Redcap, 50%; Cardinal, 44%; and Hiland, 22%. Freestone—Keystone, 47%; Redhaven, 34%; Halehaven, 21%; and Southland, 19%.

A South Carolina shipper says, in speaking of his state: "The new

(Continued on page 35)

(States are arranged in approximate order in which the commercial crop comes on, and varieties are listed about in the order of ripening.)

State Estimates in Thousands of Bushels According to 1958 Questimate (Feb. 17) of National Peach Council																																	
Weeks earlier than Elberta	Commercial Varieties	3,500	3,000	500	100	320	2,000	975	1,400	14,290	180	200	385	175	800	250	1,500	95	400	2,000	600	2,250	1,750	1,750	480	280	450	1,000	2,750	1,000	2,500†	44,380	Total Bushels from Each Variety
		Ga.	S.C.	Tex.	La.	Miss.	Ark.	Ala.	N.C.	Cal.	Tenn.	Ky.	Mo.	Kan.	Ill.	Ind.	Va.	Del.	Md.	N.J.	W.Va.	Pa.	Wash.	Colo.	Utah	Id.	Ore.	Ohio	Mich.	N.Y.	Ont.	U.S.	
8*	Mayflower	+	1			2		1																									46,150
6½*	Cardinal	6	4	5				6																									413,500
6½*	Hiland	4	1	1				3																									204,255
6*	Merrill Gem									4																							571,600
6*	Dixired	14	9	3	5	5	25	12	5							1											1						1,502,500
6*	Redcap	5	1	1				8																									288,000
5½*	Early-Red-Fre	3	1	2		2		3	2							2		3		2	2							5		1			357,650
5*	Coronet	5	3	5				7	+																								358,250
4½	Jerseyland (Beauty Gem)		2												1			5	1	2											2		213,500
4½*	Dixigem	2	1	2	35	7	15	2	10		1																1						633,200
4½	Pearson Hiley	5																															175,000
4½	Redhaven	2	3	4	3	10	20	6	+	5	2	2	15	15	6	20	5		5	5	5	5	6	10	1		15	5	25	3	7		3,004,900
3½	Golden Jubilee		2		5	5		15		10	5	5	10	2	4	4		6	5	2	5	1					1	10		12	25		932,450
3½	Keystone	5	2				1	5	+																								303,750
3½	Ranger		1	2																													40,000
3	Early Hiley	5																															175,000
3	Fair Beauty			3				5	1																								77,750
3	Newday																		10														200,000
3	Triogem		2	6	1								10	5		1		5	10	1	3												501,750
2½	Fairhaven													5	+	2														5			13,750
2	Hiley	2				5		1		</																							

*Cling or semi-cling. †Later than Elberta. ‡Ontario total not included in U.S. Summary. +In production but percentage not given.



State REPORTS

WESTERN EDITION

Irrigation Pointers for Washington Growers

WHEN to irrigate. You fill up the gas tank in your car when it is almost empty; you don't fill it every second Monday in the month, for example, because during some of these Mondays the tank may be practically full. Your soil is very much the same way. To put more water into it may not only waste water but may also keep the soil wet enough to injure tree roots.

To keep the soil moisture at the proper level, you must first examine the soil—not only on the surface but to a depth of 12 or 18 inches. There are numerous devices for examining the soil. The soil auger is probably the best. It is a tool that every orchardist should have. An irrigating shovel can be used, too.

As you bring soil up with the auger or shovel, take handfuls of it and firm it by closing the hand. If upon opening the hand the clump of soil holds its shape, there is still moisture the tree can get; but if it crumbles, it is time to irrigate. As you examine the soil in this way you will find degrees of wetness. The soil may be so wet that moisture actually sticks to your hand. Irrigating soil in this condition can be harmful.

Don't start too early. Because water is available in early spring is no sign that you should irrigate. The soil may already be very wet. Examine the soil first.

Space your irrigation intervals. Plants use much more moisture during the hot months of July and August than they do during May and June. Light soils must be irrigated more often than those that hold moisture well.

Give young trees special attention. When planted among old trees, young trees should receive special attention. Young trees do not use

very much moisture but the root system of a young tree is small and many of the roots are near the surface where weeds and grass can keep moisture depleted. With young trees even the surface soil must be kept moist.

Encourage hardening off. You do not want your trees to be succulent in the fall when the first freezes occur, nor do you want them to go into the winter with the soil dry. This is especially true of young trees. Along in late August or early September cut the water slightly to slow down growth. When and how much you cut down the water will depend upon the waterholding capacity of the soil.

After you have dried the soil, but late enough in the fall to avoid second growth, soak the soil thoroughly. This usually comes in October just before the water is cut off.

Don't assume that sprinkling is a panacea. Sprinkling makes water go farther, but some orchardists make the mistake of assuming that if the surface is wet, all of the soil is wet. If sprinkling is new to you, examine your soil within a few hours after each sprinkling. Take a rod and probe the soil as though you were looking for a gopher run. The soil should be moist to a depth of at least 12 to 18 inches.—*John C. Snyder, Ext. Hort. Spec., State College of Washington, Pullman.*

Use of Sprinklers Gaining Favor in California

THE increased use of sprinklers for irrigating orchards has created an interest among all growers as to whether they, too, should be using this method. Under certain conditions, sprinklers when properly used have an advantage over surface irrigation methods.

The reasons usually given by growers for changing over from conventional surface irrigation methods to sprinklers are: they could do a better job of maintaining a continuous supply of readily available moisture for their trees; they could maintain a healthier environment for the

roots of the trees; or, they could apply the water more economically.

Sprinklers provide a means of accurately controlling the application of irrigation water. The rate of precipitation, the depth of water applied, and the frequency of irrigations can all be regulated by obtaining a sprinkler system designed for the conditions existing in each orchard. This ability to control water application is only of value if the grower uses his sprinkler system to accomplish the benefits which it provides.

The tendency among many growers is to apply excessive amounts of irrigation water early in the season, and then let the trees suffer for lack of water late in the season. The early overirrigations may waterlog the soil and do damage to the roots of the trees, and the lack of water late in the season may reduce yields the following year. Growers who are maintaining favorable soil moisture conditions throughout the growing season are obtaining higher yields with well-sized fruit than are those that allow their trees to suffer from too little or too much water during certain periods of the year.

The timing of irrigations and determining the amounts of water to apply should be based on a knowledge of soil moisture conditions. Many growers are using a soil tube or an auger to collect soil samples from various depths for examination. (Continued on page 38)



Sprinklers shown here are being used for early irrigation in clean, cultivated orchard. Note the closeness of the lateral line to tree row.

AMERICAN FRUIT GROWER

SPRINKLERS Are His Silent Partner

**It used to take this California almond grower
120 man hours to irrigate. Now he does it in 15**

By NORMAN W. ROSS
Farm Advisor, Modesto, Calif.

THERE must be a better way. So thought Leonard Rietveld, as he struggled through the mud on a warm July night in 1956, irrigating his newly acquired 30-acre almond orchard.

He wondered how former owners had fought the water around its slopes for the previous 37 years. He and three hired men were furrow irrigating land with side slopes ranging from 0 to 15%.

Those who have irrigated hilly land know what can take place. Water often decides to go down the slope rather than around it as desired. Water from one furrow often breaks into the next lower one. If a man isn't there to plug the break, this causes the lower furrow to overflow into the next one. This sort of thing keeps going until all the furrows break and downhill goes the water. Usually it means the high spots within the orchard don't get enough water and the low ones get too much. In turn this results in dry trees in the higher parts of the orchard and sick or drowned trees in the lower portions. Both situations mean lower production.

With luck three or four men worked for some 30 continuous hours to get the orchard irrigated. Once the water was turned into the property it had to be used continuously until the irrigation was completed.

The Rietvelds had recently come into the Oakdale area from Minnesota. The better way to irrigate that Leonard was looking for turned out to be a sprinkler system. This method was made to order for portions of the Oakdale area. Most of the several thousand acres of almonds in that section of Stanislaus County are on hilly land.

The entire job of irrigating the 30-acre orchard is now easily handled by Leonard. The sprinklers run for 11 hours. One hour is required to move the pipe between settings. Thus, two hours of work per day allows 22 hours of irrigating. The



Leonard Rietveld examines Buckner Rainer sprinkler head on 3-inch line. These heads are 3/16 inch single orifice and are spaced 30 feet apart. Each head covers about 85-foot circle.



Peerless Fluidyne pump (2½ x 3 x 8 feet) draws water out of sump and pumps it into the 5-inch main line. Sump was built on the underground pipeline. Risers from pipeline (in foreground and background) were used for distribution of water when the orchard was furrow irrigated.

job is done 7½ days or 15 moves later. In other words, 15 man hours are used per irrigation as compared with 90 to 120 formerly used.

Part-time labor is often hard to find during the summer months. The fact that part of the work comes during the night also discouraged would-be help.

The sprinklers are 3/16-inch single heads mounted 30 feet apart on a 3-inch line which is 800 feet in length. Each head covers about an 85-foot circle. The lines are spaced at 52 feet, which is every other tree

row. The lines are moved straight across the orchard so the position of the sprinkler heads are on the square. Alternate rows are used for the line settings at the next irrigation.

In this manner, each tree receives essentially the same amount of water during the course of the season. During the 11-hour run, 3½ inches of water are applied to the area being wetted. (Tin cans have from time to time been placed around under the trees in order to be sure of uniform watering.) This is enough to wet Leonard's soil to a depth of about 4 feet. Six such irrigations are usually applied per season. This amount of water plus the normal winter rainfall of 12 to 14 inches is sufficient during most seasons.

Insect and disease problems have not increased by the use of sprinklers in orchards. In fact, spider mites have been less a problem in sprinkler-irrigated orchards than in furrow- or flood-irrigated ones. The high point of the arc formed by the water stream from the sprinkler head reaches up to about 12 feet in the trees. This washing effect of the

(Continued on page 39)



- Georgia Peach Growers Form Council
- Grape Growers in Ohio Granted Nonprofit Charter

Include Business Courses

WASHINGTON—To meet the demand for young people trained not only in the technical aspects of growing but also in business, the department of horticulture at State College of Washington, Pullman, has added business courses to its present horticulture curricula.

Students majoring in fruit production can combine economics, accounting, industrial management, marketing, business

NAI CHANGES JUNE MEETING PLACE

Because of the action of Washington State Apple Commission in withdrawing their support from National Apple Institute, the executive committee of NAI has changed the place of the annual meeting from Yakima to Washington, D.C. (complete story is on page 16).

The statement from NAI said, "In view of the short time in which to resolve this question and the uncertainty of attendance by Eastern apple growers under the circumstances, the committee decided with regret that it was necessary to shift the location of the summer annual meeting of the National Apple Institute, originally scheduled to be held in Yakima, June 18-20. The annual meeting will be held in Washington, D.C., on the same dates."

Place of the meeting is Hotel Woodner.

It was made clear that despite the change in the meeting place, full representative delegations are wanted to take part in all the discussions. The institute's existence, functions, and programs as the voice of the apple growers of America will be the most important business the convention will take up.

finance, and farm management with their regular schedule.

Other courses include business law, personnel administration, sales management, co-operatives, advertising, agricultural prices, and land economics. Additional information may be obtained by writing to the horticulture department.—T. A. Merrill, Chairman, Dept. of Hort., State College of Washington.

Grape Growers Get Charter

OHIO—Ted W. Brown, secretary of state, has granted a nonprofit charter to Tri-County Grape Growers, Inc., which is comprised of growers in Lake, Ashtabula, and Geauga counties in the northeastern section of the state. Principal location of the organization is RFD, North Madison, Lake County.

Purpose of the organization is to discourage further planting of Concord grapes until the markets are expanded. Other aims are to produce highest quality fruit; estimate preharvest tonnage accurately; cooperate to the fullest with processors; conduct market surveys to determine how advertising funds should be spent; obtain competent, well-trained federal grape inspectors; and in general further promote the sale of Concord grape products and bring about a closer relationship between the grower and processor.

Officers of the group are Ray Gruber,

president; J. P. Burkholder, vice-president; John Cerjan, treasurer; and W. Lovell Green, secretary.

New Weapon

VIRGINIA—Apple growers in the state have a new weapon to control the stubborn and highly destructive red-banded leaf roller. Only Phosdrin® insecticide has shown enough promise to come into commercial use.

This chemical is registered for use on apples and may be used up to one day before harvest. Phosdrin's principal mode of action on the leaf roller is by contact. It is effective against all stages, including the eggs. During the past season, leaf roller egg masses were collected from or-

chards and treated with the chemical at three concentrations: 1/8, 1/4, and 1/2 pound per 100 gallons of water. The 1/8-pound rate had little ovicidal value. The 1/4 pound prevented 80 to 90% of the eggs from hatching. At the 1/2-pound rate no eggs hatched. This ovicidal property may be of great value to the total control obtained.

Virginia Spray Service's suggested rate of use for control is 1/4 to 1/2 pound of toxicant per 100 gallons of water or 16 to 20 fluid ounces of the 2 pounds per gallon formulation.

It is expected that further research will be conducted on Phosdrin in leaf roller control. Many factors need to be understood. In addition, many new insecticides will be evaluated for red-banded leaf roller control.—Clarence H. Hill, Associate Entomologist, Virginia Agricultural Experiment Station.

(Continued on page 45)

FRUIT PEST HANDBOOK

(SIXTY-FIFTH OF A SERIES)

YELLOW S

YELLOW S is the most important virus disease of sour cherry in the United States and Canada. It is widely distributed in all cherry producing states and provinces, and causes a severe and permanent reduction in yield.

Leaf symptoms usually appear within three or four weeks after petal fall as a very striking green and yellow mottling followed by rapid dropping of up to 50% of the leaves. Some leaves may be entirely yellow, some will show varying amounts of bright green and yellow, and others will fall while still green. The yellowing begins with the older leaves and varies in severity with the temperature during the first few weeks after bloom. Leaf symptoms generally are severe in a cool season and may be absent or nearly so during a warm season or in southern areas.

Trees which have had yellows for two or more years tend to have few fruit spurs, large leaves, a light crop of large fruit of good color and quality, and a type of growth characterized by long, bare spaces on the twigs and a drooping, willowy habit.

The yield of yellows diseased trees decreases over a period of about five years until it is only about one-half of normal. The low yield continues for the life of the tree.

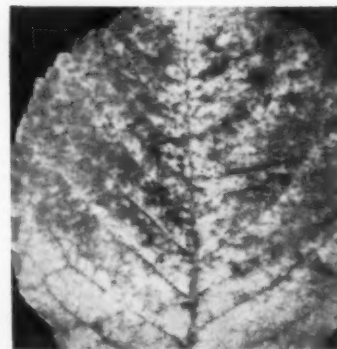
Yellows may spread slowly in the orchard during the first six or eight years after planting, then spread at a rate up to one-third of the trees in one year. Yellows follows ring spot, and is therefore dependent to some extent upon the spread of ring spot.

The yellows disease is believed to be caused by two or more viruses in combination, of which the ring spot virus is one, or by the prunus dwarf virus which may be closely related to the ring spot virus family. Yellows has never been found without ring spot, but ring spot has been found without yellows.

Control—Control efforts are aimed at production and distribution of virus-free nursery trees. Many such trees are available and should be used whenever possible. They will have an advantage during the early part of their life, but are not immune to the disease. Planting such trees away from older, often diseased trees may cause a significant delay in any future infection and yield reduction. Pulling diseased or-



Typical yellows injury on sour cherry.



Sour cherry leaf affected with yellows.

Photos: John S. Boyle.

chard trees may be helpful in young orchards, but is often impractical because of difficulty in recognizing trees which carry virus but show no symptoms. Sick trees cannot be cured.—F. H. Lewis, Pennsylvania State University.

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Apples

Industry Faces Crisis

A SPLIT in the ranks threatens to upset the solidarity of the national apple promotion program. At the last annual meeting, Washington State Apple Commission, the largest contributor to National Apple Institute, voted to withdraw their support from the national organization. The move was directed toward combining National Apple Institute, International Apple Association, and National Apple Week Association, in the interests of economy and efficiency.

The Washington group went on record as favoring continued financial assistance to support a single program of national apple promotion by one organization developed in the best interests of the nation's apple growers. Washington Apple Commission stated that there is too much overlapping in both duties and goals of the three national groups and that the interests of the nation's apple growers would be served better and more economically by such a consolidation.

Following the action of the Washington growers, the executive committee of the National Apple Institute met in Washington, D. C., and unanimously went on record that to comply with the Washington State plan would not be in the best interests of the apple growers of the State of Washington or the apple growers of the rest of the nation.

Members of the executive committee of NAI in attendance were: C. B. Lewis, Riverton, N. J., chairman of the board; Desmond Shearer, Tieton, Wash., president; Ben W. Drew, Westford, Mass., vice-president; Patterson Bain, McBaine, Mo., treasurer; Ralph Foreman, Northville, Mich., secretary; Henry W. Miller, Paw Paw, W. Va.; E. B. Moore, Berryville, Va.; John Coffee, Grand Rapids, Mich.; Marion Johnson, Williamson, N. Y.; and J. E. Klahre, Hood River, Ore.

By their action the NAI executive committee reaffirmed its belief in a 100% growers' association to represent growers' interests and to direct national promotion programs financed by growers. However, the committee was sympathetic to any moves that would eliminate duplication of effort between itself and International Apple Association (National Apple Week is a subsidiary of IAA).

At the same time, the committee

decided to shift the location of the coming annual meeting, originally scheduled for Yakima, June 18 to 20 to Washington, D. C., on the same dates.

The National Apple Institute executive committee pointed out that it would be difficult, if not impossible, to establish a workable form of organization which would effectively accommodate the NAI and the IAA.

The committee said that whereas the NAI is an association of grower associations and commissions representing about 12,000 apple growers, the IAA membership comprises 1400 individual members including growers, shippers, brokers, distributors, and other diverse interests, such as manufacturers of supplies, transportation agencies, citrus marketers, and foreign apple buyers and handlers.

"If the National Apple Institute," said the NAI committee, "were to merge their interests with those of the IAA it would mean that the primary purpose of apple research and promotion would to some extent be subordinate to other activities of the merged organizations, and the apple growers who are providing the funds for promotion and research would lose their straight-line contact with and the control of funds that they contribute."

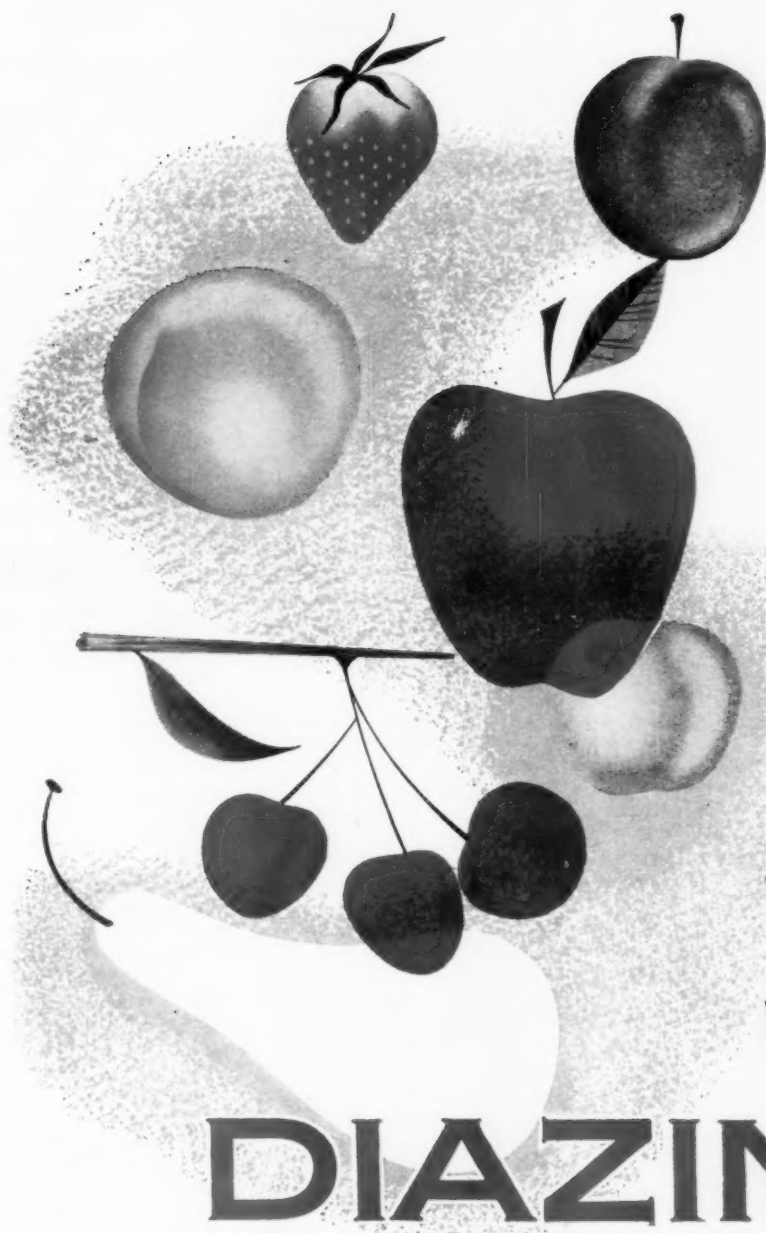
In reply to the charge of overlapping of functions, the National group stated that there is actually less duplication of activity by the IAA and the NAI than is sometimes supposed and that the savings possible by merger would not be substantial.

However, to improve service and reduce any possible duplication of effort, the following was proposed:

1) NAI discontinue for the most part its legislative activities and contacts with government regulatory agencies. These would be handled by IAA.

2) NAI would concentrate on those activities which relate to research and promotion of apples, including advertising, publicity, apple films, stimulating co-operation on the part of regional advertising groups, encouraging the development of additional regional groups of growers, foster new uses for apples and tie-in advertising.

Finally, the National Apple Institute is willing to incorporate National Apple Week into its national promotion program provided satisfactory arrangements can be made through IAA for trade participation.



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Pears

Down But Not Out

THE pear industry of central and eastern Washington may be down but not out. One has only to drive along the road to observe the new and young plantings of pear trees to realize that fruit growers are not discouraged over the decline in pear tonnage during the past 10 years.

A triple threat hit the pear industry of Washington about 1948. Named in their apparent order of importance, they were decline, fire blight, and psylla. The latter was a relatively new problem, but with the new phosphate sprays there was nothing more than a temporary scare at the time.

Pear decline, a relatively new term in Washington pear growing, was not taken seriously until after the series of winter freezes of '48, '49, and '50. Even then it was thought that a little fertilizer and special care would invigorate the trees.

Decline has shown in both a slow and rapid form, but from present knowledge the underlying cause is the same. The only exception was the rapid decline following the low winter temperatures of 1950 when trunk damage caused a killing of trees in some orchards in the spring of 1952.

Two full years of research on pear decline by a corps of USDA and Washington State College scientists confirmed the original diagnosis that root stock and winter injury are the principal causes of pear decline. Many fruit growers have had an opportunity to observe this conclusion in their own orchards. Young, vigorous trees on French-type rootstocks are growing side by side with older trees that show slow decline.

While there will always be exceptions to the rule in such a non-exact



Young Bartlett dehorned to remove the blighted limbs and twigs. Tree shows severity of pruning necessary for removal of the infected wood. A hail storm in June caused initial infection.

science as fruit growing, the Jap root (Serotina or Pyrifolia) appears to be the cause of our present pear decline in Washington. Coupled with winter injury, both root and top, it has given fruit growers a bad time during the past 10 years.

Many students of pear growing in the West have prophesied that the Jap root would have to go out due to the physiological troubles it caused in pears, such as hardend, blackend, and internal cork. But many of us didn't think that it would be pear decline that would cause the wholesale removal of Jap-rooted orchards.

Pear blight is always present in most Washington orchards but reaches epidemic conditions only in years when weather conditions favor its development and spread, such as in '48 and '57. Washington pear



Pear decline and blight caused the pulling of this pear orchard. Many Bartlett orchards in the area are planted on Jap root and have shown zinc deficiency and decline for a number of years.



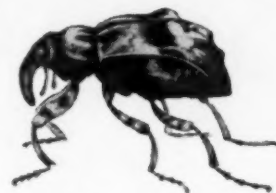
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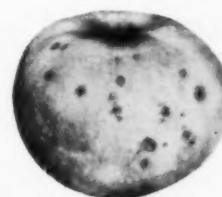
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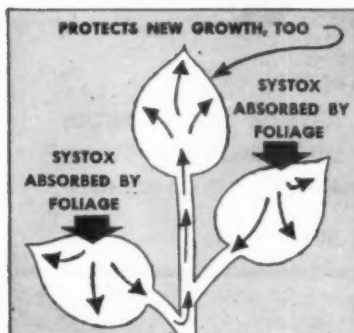
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growers are not afraid of fire blight, and perhaps that is the reason it occasionally reaches epidemic proportions—they don't consider it seriously every year. The fact is, most pear growers generally use only one method of blight control—a dormant pruning.

As in the spring of 1949, most pear growers are blight conscious this spring. The rain, wind, and hail in late May and early June last year spread the blight bacteria to every growing tip and fruit in some orchards. Many local orchards where hail was heavy have lost trees and their crop for this year, with reduced tonnage for at least three years.

But pear growers in the Wenatchee and Yakima valleys know that there will be many dry seasons when blight will all but disappear and their trees will be free of the blackened foliage that was such an eyesore last fall.

Are Washington pear growers afraid of psylla? No, but they don't like its persistence and its apparent resistance to sprays that have formerly given good control. It may have been a coincidence, but the psylla problem also reached a climax in the spring of 1957 about the time that blight was becoming a threat.

Phosphate sprays failed to give good control of a population that had built up under favorable weather the previous fall. There were so many adult psylla flying that orchards were reinfested soon after application of a spray.

Relief came, however, with the use of toxaphene and dieldrin to give more residual action in the cool spring months. Later the phosphates became more effective as the weather became warmer, and the grower gained confidence in his battle with psylla. This spring no complaints are heard about failure to control the insect.

Removal of old pear orchards has been accelerated by the blight epidemic that hit some of the Jap-rooted pear orchards in the upper Yakima Valley. Most pear growers have tried to keep up their production by removing only the sick trees and keeping in anything that was producing a commercial crop. It is expected that this type of renewal program will prevail in the future.

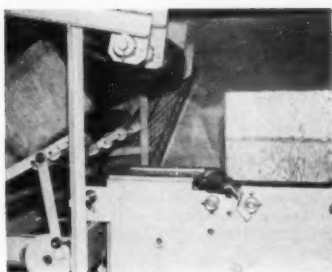
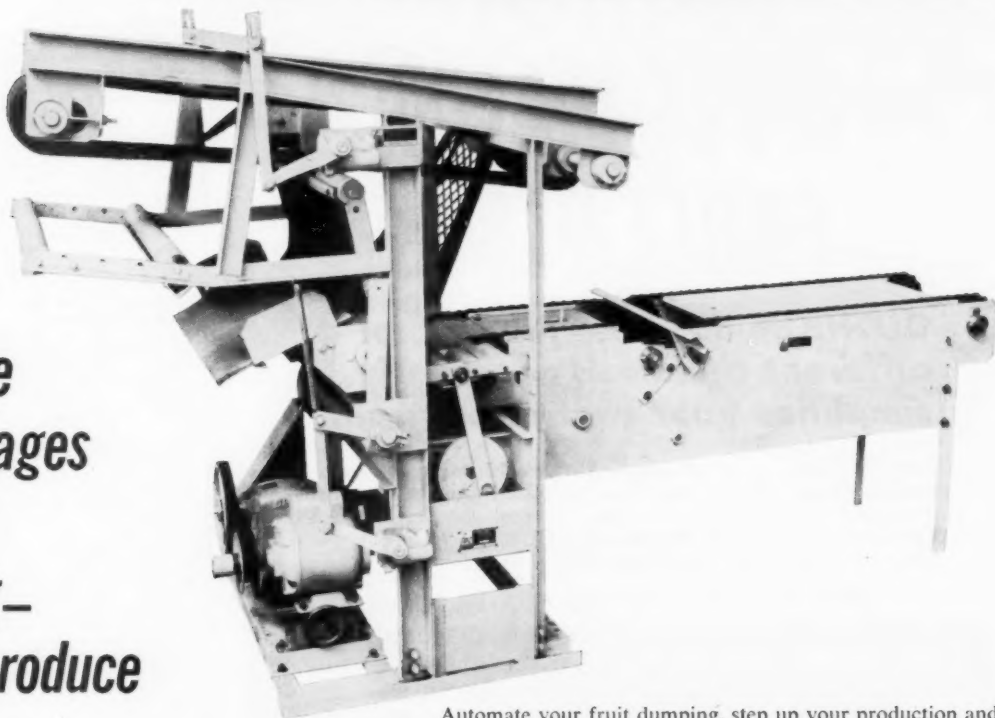
But to show the confidence of growers in pears, many acres are being planted that were formerly in apricots, peaches, and occasionally sweet cherries.—W. A. Luce, Agricultural Extension Agent, Yakima County.

Planning to build a cold storage? Plans for a 10,000-bushel refrigerated storage are available for \$2.00 from AMERICAN FRUIT GROWER, Willoughby, Ohio. Working drawings are included.

fmc

Single Box Fruit Feeder

**Eliminate
the damages
of hand
dumping—
handle produce
gently,
automatically!**



As each box is emptied and cleared, a full box automatically moves onto the lifting platform. Safe, sure, gentle handling at each step of the way—your guarantee of a better conditioned fruit, a more salable fruit.

Automate your fruit dumping, step up your production and profits! The automatic FMC Single Box Fruit Feeder sets a new high in dumping speed and gentle fruit handling. Rather than *spilling* the fruit onto the conveyor, as in manual dumping, the FMC Single Box Fruit Feeder *rolls* it on—no bruising, no piling up. The FMC Single Box Fruit Feeder handles all types of fruit; is designed to accommodate the six most popular-sized field boxes. The standard FMC Single Box Fruit Feeder empties and discharges boxes at a rate of from 4 to 12 per minute; it can be factory equipped to handle from 2 to 14 boxes per minute. Only one unskilled operator is required to tend the FMC Feeder; it requires no pits or special installation consideration. Its semi-portability enables it to be installed anywhere in your plant without necessitating shut downs. Speed your production, lower your costs, decrease fruit damage—you can do it all with the FMC Single Box Fruit Feeder!

Putting Ideas to Work



**FOOD MACHINERY AND CHEMICAL
CORPORATION**

Florida Division

GENERAL SALES OFFICES: LAKELAND, FLORIDA
PLANTS: LAKELAND, FLA.—WOODSTOCK, VA.

BD-58-1

JUNE, 1958

FOOD MACHINERY AND CHEMICAL CORPORATION
FLORIDA DIVISION, Fairway Ave., Lakeland, Fla.

Please send me complete information on the FMC Single Box Fruit Feeder.

NAME _____

COMPANY _____

ADDRESS _____ RFD No. _____

CITY _____ ZONE _____ STATE _____

GUTHION[®] ALONE CONTROLS MOST MAJOR FRUIT PESTS

GUTHION does the job of 3 or 4 different chemicals . . . greatly simplifies your control program

GUTHION puts an end to complicated fruit spray schedules . . . makes possible for the first time simplified fruit pest control. You no longer need three or four different chemicals, because GUTHION wettable powder does the job alone. GUTHION alone effectively controls virtually all major fruit insect pests!

COMPARE THESE TWO APPLE INSECT CONTROL SCHEDULES

TYPICAL SCHEDULE WITH CONVENTIONAL INSECTICIDES			Simplified GUTHION Schedule
Application	Insects	Chemicals	
PETAL FALL	Codling Moth, Curculio, Leaf Rollers, Sawfly, Leaf Miner, Red Bugs, Mites, Aphids	Parathion 15% Dieldrin 50%	GUTHION alone
FIRST COVER	Codling Moth, Curculio, Leaf Rollers, Leaf Miner, Red Bugs, Mites	Parathion 15% Dieldrin 50%	GUTHION alone
SECOND COVER	Codling Moth, Leaf Rollers, Curculio	DDT 50%, TDE 50%, Parathion 15%	GUTHION alone
THIRD COVER	Codling Moth, Mites, Aphids	DDT 50%, Aphicide, Miticide	GUTHION alone
FOURTH COVER	Apple Maggot, Codling Moth, Leaf Rollers, Fruit Worm, Aphids	Lead Arsenate, DDT 50%, TDE 50%, Aphicide, Miticide	GUTHION alone
FIFTH COVER	Apple Maggot, Codling Moth, Mites, Curculio	Lead Arsenate, DDT 50%, Miticide, Parathion 15%	GUTHION alone
SIXTH & SEVENTH COVER	Codling Moth, Leaf Rollers	DDT 50%, TDE 50%	GUTHION alone

GUTHION keeps insects under control better between sprays, too, because GUTHION stays on the job . . . keeps working from one cover spray to the next. GUTHION wettable powder is recommended for the "all-season" control of fruit pests on apples, crab apples, pears, peaches, nectarines, apricots and quinces. Ask your Farm Supply Dealer!

GUTHION A PRODUCT OF **CHEMAGRO**
 "Chemicals for Agriculture—Exclusively!"

THE QUESTION BOX

Don't be perplexed! Send us your questions—no matter how big or small. A three-cent stamp will bring you an early reply. Address: The Question Box, AMERICAN FRUIT GROWER, Willoughby, Ohio.

MECHANICAL RASPBERRY HARVESTER

Sometime ago you wrote about raspberry harvesters being used in the state of Washington. Did these prove satisfactory and if so, who makes them?—Minnesota.

To the best of our knowledge, the attempts at building a raspberry harvester have been abandoned. The wheelbarrow type was manufactured and sold to about a dozen growers who discarded the machines after a brief trial. Wet weather in Washington caused moldy and soft berries which could not be machine harvested.

GRAPE WINE

Where can I obtain information on making grape wine?—Illinois.

From the book, *Grapes & Wines From Home Vineyards*, by U. P. Hedrick which is available through Book Department, AMERICAN FRUIT GROWER, Willoughby, Ohio, for \$6.00.

NEMATODE CONTROL

Who manufactures dibromo chloropropane for use on strawberries for control of root knot nematodes?—Pennsylvania.

Shell Chemical Corp., 460 Park Ave., New York, N. Y.; Dow Chemical Co., Midland, Mich.; and B. G. Pratt Co., 204 21st Ave., Paterson, N. J.

STAYMAN BREAKDOWN

We stored our Delicious, Northwestern Greening, and Stayman in a commercial cold storage plant this past season, but, although the Delicious and Northwestern Greening kept very well, the Stayman had shriveled-looking skin and felt soft and spongy to the touch. Can you tell me why this was?—Maryland.

Stayman didn't do well perhaps because of the growing conditions last year. Stayman all over the country did not keep well this past season and there was considerable internal breakdown. Another year Stayman may do better for you in storage. It has been found that Stayman is prone to shriveling because of the large russet area around the stem. New russet-free strains are being developed which do not shrivel so easily.

NEW COLOR SPORTS

Where can I purchase the new early coloring sports, Hi-Red, Hi Early, Red King, Starkrimson, Redspur, and Royal Red?—Oregon.

Hi-Red is being propagated by Charles Morrison Nursery, Zillah, Wash.; Hi Early by Heath Nursery, Paterson, Wash.; Red King by Van Well Nursery, Wenatchee, Wash.; Starkrimson by Stark Bro's Nurseries, Louisiana, Mo.; and Redspur and Royal Red by C & O Nursery, Wenatchee, Wash.

PECAN GROWER ASSOCIATIONS

Do you know of a pecan growers association? If so, please send the address.—Missouri.

Oklahoma Pecan Growers Association, Fred LeCrone, Secretary, Oklahoma A & M College, Stillwater, Okla., and Texas Pecan Growers Association, F. R. Brison, Secretary-Treasurer, College Station, Tex.

ANTHRACNOSE CONTROL

Where can I purchase Elgetol and Krenite for control of anthracnose on raspberries? Our stores here don't carry these products.—Illinois.

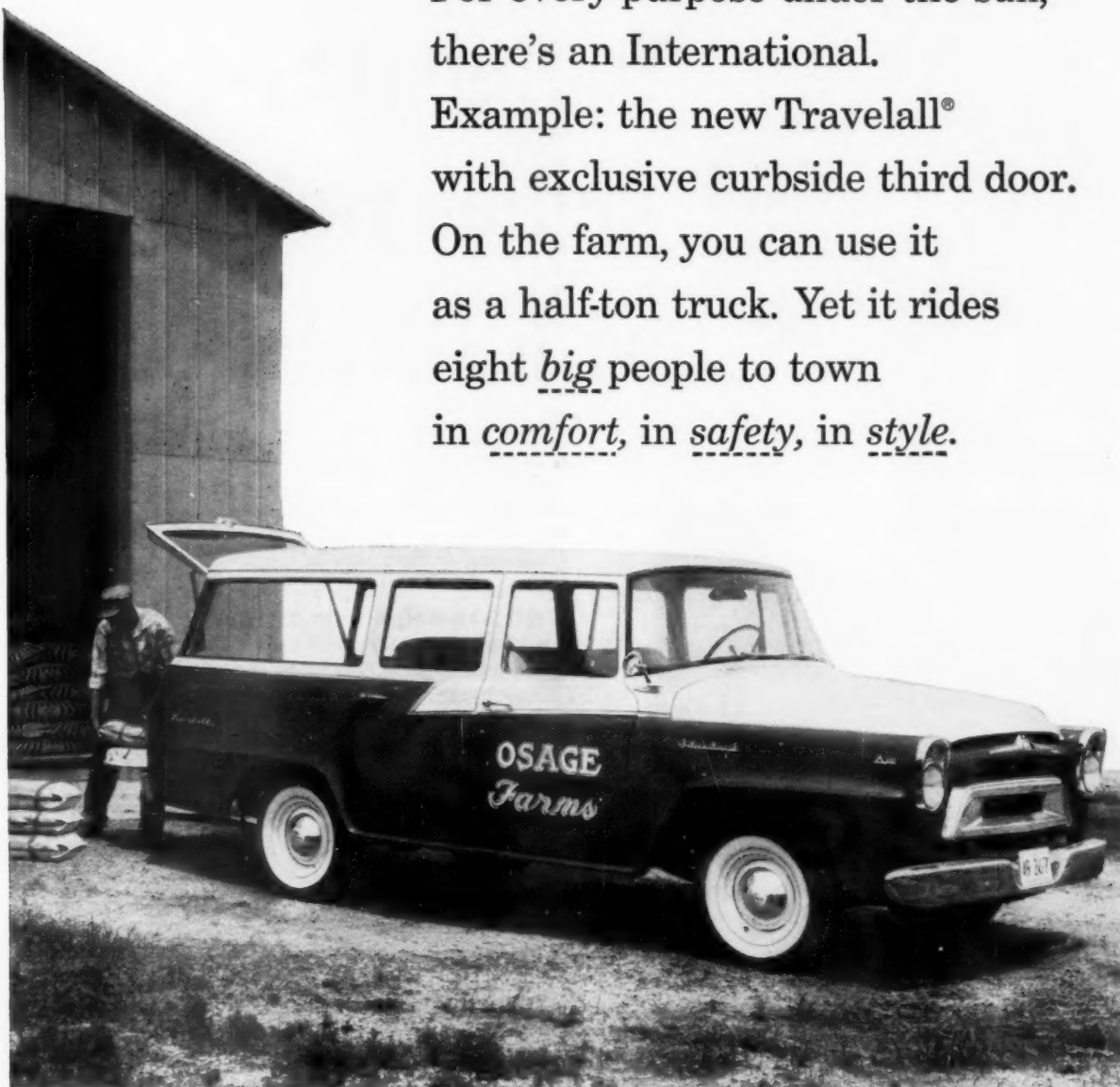
Elgetol is manufactured by Standard Agricultural Chemicals, Inc., 1301 Jefferson St., Hoboken, N. J. Krenite is no longer being manufactured by E. I. du Pont de Nemours & Co.

AMERICAN FRUIT GROWER

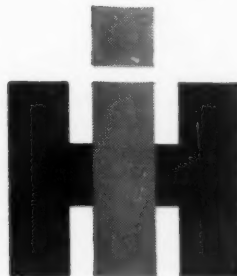
For every purpose under the sun,
there's an International.

Example: the new Travelall®
with exclusive curbside third door.

On the farm, you can use it
as a half-ton truck. Yet it rides
eight big people to town
in comfort, in safety, in style.



Full opening rear gates and low flat floor make the Travelall the easiest vehicle of its kind to load. Inside, there's more cubic feet of loadspace—yet parking length is shorter. Fully loaded the Travelall has plenty of clearance on rough roads.



NOW, FOR ANOTHER YEAR, INTERNATIONAL TRUCKS ARE SALES LEADERS!

- * First in heavy-duty truck sales 26 straight years. * First in six-wheel truck sales 23 straight years. * First in multi-stop truck sales 20 straight years.
- * INTERNATIONAL offers you more models...½-ton pickups to 96,000 lbs. GVW.

INTERNATIONAL HARVESTER CO., CHICAGO • Motor Trucks • Crawler Tractors • Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors

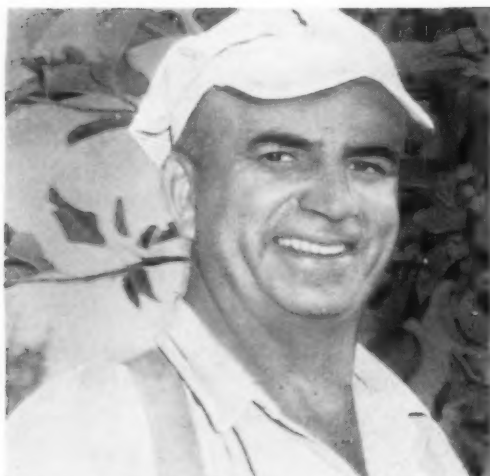
INTERNATIONAL TRUCKS cost least to own!

ORTHO Field Reports:



Top quality— higher yields with ORTHOCIDE

say leading fruit growers



"ORTHO has helped me grow the best fruit possible, for the fresh market. My fruit has color, size and quality thanks to the complete ORTHO program that I've been on for the past 3 years. This program with the aid of the ORTHO Fieldman and proper horticultural practices has helped us increase our yield."

From a field interview with Mr. W. Philip Porterfield, Rosemary Orchards, Martinsburg, West Virginia.



"ORTHO has really paid-off. ORTHO pest programs have proven to me that they pay off in clean crops and higher yields. I'm on a complete ORTHOCIDE program on strawberries and raspberries and follow the recommendations that the ORTHO Fieldman suggests. It has improved the overall quality of the berries and increased the market demand. I feel that ORTHO has really paid off."

From a field interview with Mr. Perry Giambrone, who grows strawberries, tomatoes and beans at North Collins, New York.



"We're completely sold on an ORTHOCIDE program. We believe in a complete ORTHOCIDE program on our peaches—it has given us better color and finish. This season we shipped an average of 400 bushels per acre which we consider our best yield yet. ORTHOCIDE stopped the brown rot in our orchards

better than sulphur. It's no wonder we're completely sold on an ORTHOCIDE program."

From a field interview with (left to right) Harold and Albert Jackson, Inman, South Carolina, shown above with ORTHO Fieldman Horace Berry.

Don't delay—start an ORTHO program today!

These reports are just a few of hundreds received from leading fruit growers who have found that ORTHOCIDE (captan) in an ORTHO program helps them grow better quality fruit. And, remember, only ORTHOCIDE, a superior formulation of

captan, provides: (1) Exceptionally fine particle sizes. (2) Better sticking, wetting, and spreading agents. (3) Superior carrying agents. (4) Compatibility with the full ORTHO line of insect and disease control products.



Helping the World Grow Better

California Spray-Chemical Corp.

A subsidiary of California Chemical Company

Scientifically trained Fieldmen
located in all the Nation's fruit growing areas.

District Offices: Haddonfield, N.J.; Springfield, Mass.; Medina, N.Y.;
Columbia, S.C.; Orlando, Fla.; Maumee, Ohio; Memphis, Tenn.;
Shreveport, La.; Maryland Heights, Mo.; Portland, Ore.; Phoenix, Ariz.;
Salt Lake City, Utah; Sacramento, Fresno, San Jose, Whittier, Calif.

U. S. REG. U. S. PAT. OFF. ORTHOCIDE ON ALL CHEMICALS, READ DIRECTIONS AND CAUTIONS BEFORE USE

WEAPON AGAINST RISING COSTS

■ You're looking at more than a million dollars' worth of diesel locomotives—part of the 4½ billion dollars' worth put into service by the railroads since World War II. These new locomotives — and nearly 10 billion dollars' worth of other improvements — have made for better service, greater efficiency and lower costs. They have been a leading counterweapon in the railroads' fight against the inflationary forces of higher wages, prices, taxes and other costs. Because of such improvements, postwar increases in railroad rates have been much less than would otherwise have been necessary.

And railroads can keep on improving services and reducing costs — if the money or credit for further improvements can be found. But that means earnings — and railroad earnings are sharply reduced by outdated public policies which favor competing forms of transportation. So, the nation is denied some of the benefits of continued railroad progress — and you lose, too.

In your interest — in the interest of everyone in America — railroads should be permitted to compete on equal terms. They ask no more; they should have no less.



*America moves ahead
with the railroads ...
your basic transportation*

ASSOCIATION OF AMERICAN RAILROADS



WASHINGTON, D. C.

Berries

Frost-Proofing

EDGAR McGARRAH and his son, Harlow, farm 80 acres of mountaintop near Siloam Springs, in northwest Arkansas. "In just one season our irrigation system has been responsible for saving an \$11,000 strawberry crop—not from drought alone, but from the perennial spring threat of frost."

In 1954 the McGarrahs used their overhead sprinkler system for frost-proofing 3 acres of Blakemores when most of the area's strawberry crop was killed by a late freeze.

That spring prices went to \$10 and \$11 a crate, and the McGarrahs sold 980 crates of berries. Besides that, 200,000 plants were sold at \$10 and \$12 a thousand.

They had set out 3 acres of berries on new, rocky, hilltop land the year



Harlow and Edgar McGarragh with pump unit built from Chevrolet motor and ¾ hp Cornell engine.

before, irrigating the patch with a 13 hp pump unit, loaned them by Ray Saxon, supplies dealer in Fayetteville, Ark., for Champion Corp., Hammond, Ind.

Harlow recalls how difficult those days were. "We barely had enough pipe to reach the top of the 125-foot hill. Later, when we planted a second hilltop patch, I carried the four 40-foot aluminum pipes, equipped with Champion couplings, from one hill to another by hand. That was before we were able to buy a tractor."

Later they replaced the borrowed pump with a unit of their own, built under Saxon's supervision, from a Chevrolet motor and a ¾ hp Cornell engine.

They irrigated from a small, spring-fed creek which disappeared underground part of the way. They dug out a small reservoir in the stream bed, from which they pumped a couple of hours, then had to wait two hours for the hole to refill.

That first spring they weren't sure they could use the sprinklers for frost-proofing, but when the tem-

AMERICAN FRUIT GROWER

WHEREVER TOP-QUALITY FRUIT IS GROWN—

Du Pont has the right fungicide for your cover program

FERMATE®—The time-tested, economical fungicide for red varieties
ferbam fungicide



Season after season for over 16 years, Du Pont "Fermate" ferbam fungicide has given effective, low-cost protection against scab, rust, frog-eye leaf spot and more minor diseases than any other fungicide. Mild "Fermate" sticks to fruit and leaves, redistributes well, contributes to deep green, healthy leaves—as on the McIntosh tree to the left—and increased yields of finer fruit. For versatility plus economy in your cover program on red varieties, Du Pont "Fermate" can't be beaten.

THYLATE®—The all-variety apple fungicide for a fine-finish program
thiram fungicide



Du Pont "Thylate" thiram fungicide controls scab, rust and more apple diseases than any other fungicide. Light-colored "Thylate" can be used on all varieties and gives a fine finish to all of them—even to tender varieties like Golden Delicious. With "Thylate," russetting is no problem. Try Du Pont "Thylate" in your cover-spray program—it's available at a new reduced price to give economy-minded growers complete control of apple diseases, plus fine fruit finish. The exceptionally fine finish of the Golden Delicious to the left resulted from using "Thylate."

PARZATE®—Lasts a long time for effective control of summer diseases of apples
zineb fungicide

Growers in the areas shown on the map to the right will want to take advantage of Du Pont "Parzate" zineb fungicide in their cover programs. Most of these states recommend one pound of "Parzate" zineb plus another fungicide in two or more cover sprays because "Parzate" is longer-lasting for effective control of (1) secondary (summer) scab; (2) sooty blotch and flyspeck. "Parzate" is also a recognized high-finish fungicide and may be used on both Golden Delicious and red varieties. When you buy zineb, ask for Du Pont "Parzate" zineb.



On all chemicals, follow label instructions and warnings carefully.



REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

Foremost Fungicide for Summertime Mildew Control

KARATHANE

For a successful finish to your apple mildew control program, stay with KARATHANE until terminal growth ends. This prevents overwintering infections from getting a toe-hold in next year's buds and stops the development of secondary summer infections.

Unlike sulfur, KARATHANE can be used safely during hot weather—even if temperatures as high as 95° F. are expected. When sprayed according to directions, KARATHANE does not scald fruit or foliage, or impair tree vigor. KARATHANE can be an integral part of your "better finish" schedules because it is fully compatible with summer insecticides and fungicides.

The new, lower dosage recommended—only 8 ounces per 100 gallons—substantially reduces the cost without reducing the proved effectiveness of your KARATHANE mildew program.



Excellent control of the disease, healthier trees, more perfect grading fruit, lower costs, flexibility in your spray schedules—all these advantages make KARATHANE the foremost summertime mildew fungicide.



Chemicals for Agriculture
**ROHM & HAAS
COMPANY**
WASHINGTON SQUARE, PHILADELPHIA 5, PA.
Representatives in principal foreign countries

KARATHANE is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.

perature began to drop at 3 o'clock one morning, they decided to try it.

Pump pressure was set at about 100 pounds, and cut down to the smallest nozzle. Their Rainbird sprinklers are spaced at 40-foot intervals. The result was a very fine mist or fog over the field, and this operation was continued until sunup. The temperature fell to 20° F.

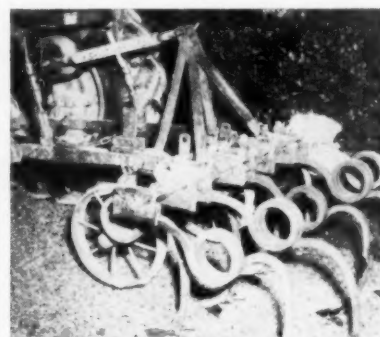
The next morning, with icicles hanging everywhere, the McGarrahs examined the plants, thinking "they were goners," as McGarragh said. "With that coating of ice on them, they looked hopeless. They were all right, though—the sprinkling saved them."

That's why, even in years when there's plenty of rain, the McGarrahs are sold on overhead sprinkler irrigation. That's why, too, they expect to increase their pipe footage and add 5-inch pipes to their supply. As Saxon explains it, with the 4-inch pipe, the McGarrahs lose 30 pounds of pressure each 65 to 70 feet, which would be remedied with a 5-inch pipe.—Wilma Cole.

Grapes

He Made It Himself

JOY Fullagar, of Penn Yan, N. Y., made his own three-point hook-up cultivator for his John Deere M tractor. He uses the field cultivator attachment in his grape vineyard and on other wide-row crops. The entire unit is adjustable for width and depth of tillage.



Closeup of Fullagar's cultivator attachment.

Fullagar mounted wheels on the cultivator to help stabilize depth of cultivation. He then welded the framework to the cultivator, converting it to a three-point hookup. The tractor drawbar was replaced by two iron bars for lifting the cultivator.

When cultivating grapes, Fullagar also can mount his grape hoe on the side of the tractor and "hoe" out the rows at the same time he cultivates the centers.—E. S. Banta.

AMERICAN FRUIT GROWER



New Ford F-600—America's toughest two-tonner has stronger axles, bigger brakes and a more powerful engine.

New Ford F-100 Styleside Pickup... America's lowest-priced half-ton pickup with cab-wide box.

*If you're hauling a herd...
or the fodder to feed it...*

FORD TRUCKS COST LESS

LESS TO OWN... LESS TO RUN... LAST LONGER, TOO!

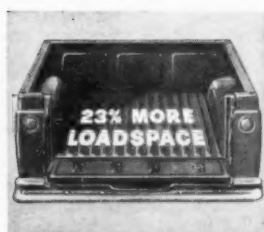
There's scarcely a highway, country road or farm lane that doesn't know Ford Trucks. For these trucks are "good business" for farmers—and it's never been so true as this year!

For proof—compare first costs. Fords are priced with the lowest. Go on to running costs. Ford gives you gas savings up to 10% with a new economy carburetor... and only Ford gives you the over-all economy of Short Stroke design in both Six and V-8. Ford replacement

parts prices are low, too! And Ford Trucks last longer. An independent study by insurance experts proves it. Small wonder Ford's resale value is traditionally high.

So it all adds up. Whether you're hauling a herd (in a tough '58 two-tonner) or the fodder to feed it (in a smooth-riding, extra-capacity Styleside pickup), a Ford Truck will cost you less, give you more in modern design, economy, reliability. See your Ford Dealer.

AMERICAN BUSINESS BUYS MORE FORD TRUCKS THAN ANY OTHER MAKE!



Greater pickup loadspace! Ford's Styleside, lowest-priced half-ton pickup with cab-wide box, has 23% more loadspace than traditional pickup boxes. And it's standard at no extra cost!



Top axle capacities in class! Two-tonners have rear-axle capacity up to 2,000 lbs. greater than other makes. Rear-axle capacity available in 1½-tonner is as great as many two-tonners!



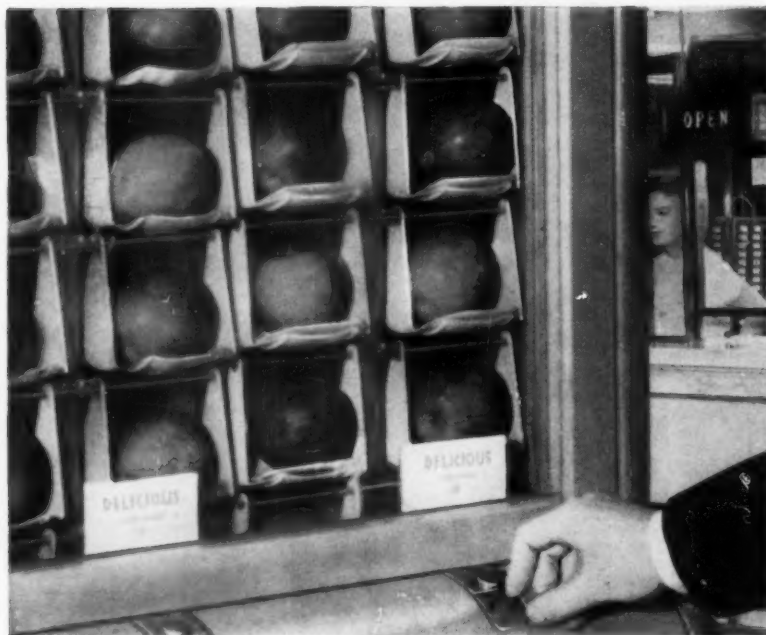
Most comfortable ride! Scientific Impact-O-Graph tests prove Ford pickups give you the smoothest ride of any half-tonner. Here is a truck ride that comes mighty close to that of a car!



Gas savings up to 10%! Short Stroke Six features new economy carburetor with new vacuum control valve and improved accelerator pump system. It gives up to 10% better gas mileage!

DITHANE

... difference between fancy
and cider apples



This zineb fungicide when used in late cover sprays is often the difference between run-of-the-mill and profitable, fine-finish fruit. That's why DITHANE Z-78 is recommended by Experiment Stations, preferred by growers in areas where summer diseases and secondary scab are a problem.

Use DITHANE Z-78 in your late cover sprays and see how well it blocks the spread of diseases, shields apples from new infections, gives the fruit long-lasting protection. This last advantage is important; with DITHANE Z-78 in your late summer sprays your fruit can remain disease-free up to picking time and beyond. The reason is that the protective film of DITHANE Z-78 remains chemically intact a remarkably long time.

Use DITHANE Z-78 against rust, sooty blotch, Brooks spot, apple blotch, fly speck; black, Botryosphaeria, and bitter rots, and late season scab.

DITHANE is a trade-mark,
Reg. U.S. Pat. Off. and in
principal foreign countries.



Chemicals for Agriculture
ROHM & HAAS
COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries



By HENRY BAILEY STEVENS

Story of the Month THE unpredictable porcupine is at it again. This time word comes of his adventures on the blueberry farm of Kent Locke, at Alton, N.H. Becoming excited about the edible possibilities of tractor rubber, the porcupine gnawed one night through a rear tire of the half-track with which Mr. Locke scales his mountain pastures. Whether the compressed air came out with a bang or a whistle is not recorded, but Porky must have felt his curiosity was justified. He turned next to the wire insulation, and was detected in the morning chewing his way along in an inaccessible area between the engine and the water system.

Locke got his rifle and in one shot ended the lives of both the porcupine and the radiator. It took him about a week to get all the quills out of the machinery, and several months to acquire all the spare parts.

We are indebted to Prof. Bill Smith, University of New Hampshire horticulturist, for the story. Any more quilly ones, gentlemen?

Berry Picking
By Ila R. Monday
Cincinnati, Ohio

Brown feet sinking softly into the dew-dipped grass, so tall it clings longingly, and the feet must be pulled through it. Two tin pails swinging from one hand, with their rounded edges so close together that their bright bottoms wink at every movement up the hill, in the slow rise of the sun.

Plodding ahead, and the dark hair under the shapeless straw hat feels hot, and sweat beads rise at the roots and spread till every strand is moist.

Work in the waving heat, stripping thorned bushes of their succulent fruit, and the buckets become too heavy to carry, and must be set under a tree, and filled in turn as the lid is filled.

Time to rest, and the hat fanning cool damp shade air to avid nostrils, and from time to time the face is soaked with water from a leaf-filled brook.

Then the heavy pails are hoisted and carried down the steep path to home, stood on the wooden bench outside the door, where top prize berries are lifted, still hot from their place in the sun—and dropped into the pail again with proud, stained fingers.

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

AMERICAN FRUIT GROWER



Thrifty work horse

**Hard worker . . . light appetite! Dodge Power Giants
are 4-way leaders of the low-priced 3!**

Dodge *Power Giants* are hungry for just one thing—work. Your *Power Giant* is always eager to tackle your toughest hauling job out in the field, and is so easy-riding and eye-catching you'll be proud to drive it on trips to town. Fact is, once you've gotten behind the wheel, you're sure to agree that Dodge leads the low-priced three *all four ways*:

Dodge is first in styling! You get style that stays in style—sculptured, flowing lines, massive chromed grille, striking dual headlights.

Dodge is first in V-8 power! Up to 27.5% more power than competitive farm trucks—for extra pulling power . . . safer highway passing . . . less

engine strain and wear. Thrifty Dodge Sixes, too!

Dodge is first in payload! *Power Giant* construction adds strength without weight, to let you haul up to $\frac{1}{3}$ more each trip. Saves time and fuel!

Dodge is first in economy! Dodge has low *first cost*, low *operating cost*. Exclusive Power-Dome V-8 engine design gives top mileage and stays healthy on low-cost *regular gas*!

Buy your next truck the way you buy your other farm equipment: *compare* before you buy. And be prepared to be surprised at your Dodge truck dealer's deal—thrifty, dependable, hard-working *Power Giants* are priced with the lowest.

DODGE Power Giants

For all your

SPRAYER NEEDS

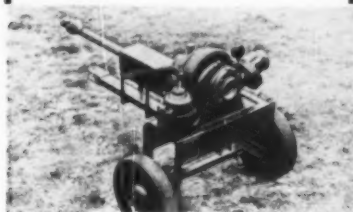
It's Still . . .



Manufacturing Corp.
GASPORT, N.Y.

NOW . . . YOU CAN

Irrigate with your tractor



NEW...**HALE** TRACTOR-MATE PTO irrigation pump

Now you can get full benefit from your tractor. Use it for "off hour" irrigation with the new HALE 3 PTF Irrigation Pump. Designed as a medium sized Irrigation Pump with a wide range of volume and pressure—it is compact, efficient and economical to operate. It can also be used as a booster in your present system.

Field tested 3 years, the 3 PTF features a case hardened steel gear drive of the same high quality as on your local fire engine.

2 models available—3" suction—With 550 RPM take off speed, it will pump 350 GPM at 80 PSI.

MAIL THE COUPON FOR DETAILS

We'll send you, immediately, information on the new 3 PTF and the FULL line of Hale Quality Built Irrigation Pumps with capacities for 120 to 1560 GPM.

HALE Irrigation Pumping Units are sold thru Distributors who are well qualified to engineer a system best suited to YOUR needs.

Dept. AFG:

Please send details on the new 3 PTF and other HALE Irrigation Pumps.

Name.....

Address.....

Water Source..... No. Acres.....

IRRIGATION DIVISION

HALE FIRE PUMP CO.
CONSHOHOCKEN, PA.

Stone Fruits

CHERRIES

Promising Fungicide

CYPREX, a fungicide, came through its second year of testing riding high on the list of promising new materials for controlling cherry leaf spot.

In tests at Michigan State University during 1956 and 1957, experimental cyprex controled the dreaded disease best of eight materials tried and did not injure trees. The new material also worked well with lead arsenate, the standard insect control material.

Donald Cation, MSU plant disease research scientist, describes cyprex as a material that "approaches the ideal."

At the final count on October 4, 1957, cyprex-sprayed trees had lost only 5% of the foliage on current season's growth. The third preharvest spray, applied on June 18, carried the leaves through a 50-day period and 8 inches of rainfall without infection. Cation considers this outstanding.

The next best treatment was a mixture of 1½ pints of glyodin and ½ pound of ferbam. Trees sprayed with this combination had dropped 27% of the foliage by late season. This is still good commercial control.

Other treatments of ferbam and captan failed to control the disease before harvest last year. Cation believes, however, that these materials are still satisfactory but more sprays are needed during years of high rainfall.

Tests with cyprex indicate that near perfect control of cherry leaf spot can probably be expected, even during severe infection years, Cation feels.

Cyprex also has been used on apples, peaches, black raspberries, red raspberries, and strawberries. In addition to cherry leaf spot, apple scab, strawberry leaf spot, and an-

thraxnose on raspberries are some of the diseases the material controls very well. Reports indicate cyprex to be at least as good as and in most cases superior to standard materials. The one exception is the control of cedar apple rust by ferbam.

One more year of testing is necessary before the USDA will give final approval to use cyprex on cherries. But no trouble is expected from either toxicity or residues.

Cyprex is expected to be available for commercial use in 1959. The material, n-dodecylguanidine acetate, also known experimentally as AM 5223, is manufactured by American Cyanamid Company.—Robert Battin, Michigan State University.

PEACHES

Cold Storage on Wheels

APPALACHIAN peaches went to market in style last year in the new mechanical railroad refrigerator cars.

These heavily-insulated cold storage plants on wheels proved well suited to shipments of peaches, since they eliminated the problem of ice supply. They could be operated during loading as an efficient precooler, and they maintained fruit temperature at exactly the optimum all the way to market.

The railroads for the first time last year had a big enough supply of their mechanicals to divert a few from the frozen foods movement for which they were originally designed, and these cars moved into the West Virginia peach area for the 1957 season.

Peaches loaded into the cars at 85° pulp temperature were pulled down rapidly to 69° in four hours and to 48° in 19 hours. Arrival temperatures at destination were all under 40°, with most in the 34 to 36° range. No development of decay was reported in a single car and maturity was held



Instead of ice, mechanical refrigerator car is cooled by two independently-operated motor compressors powered by diesel engine driving 220-volt, three-phase electric generator. The 400-gallon fuel tank keeps it going 16 days, and temperature is controlled between zero and 70° F.

AMERICAN FRUIT GROWER



Take malathion, add a chlorinated material when necessary, and you've got . . .

A COMPLETE INSECT CONTROL PROGRAM FOR SMALL FRUITS

THE CHART BELOW sums up malathion's wide usefulness to growers of cane fruits, strawberries, blueberries and grapes. In many small fruit growing sections, it gives satisfactory insect control by itself. In any section, the addition of a chlorinated material for special pests such as rootworms, crown borer on strawberries, grape berry moth, etc., makes a complete insecticide program.

Malathion controls disease vector. Aphids are known to carry yield-cutting virus diseases from infected strawberries to a healthy crop. To keep plants healthy, at least 4 applications of malathion should be made. The first early; the second when blossoms appear; then two or three more starting about September 1.

Malathion helps you avoid residue problems. On blueberries, malathion can be used up to 24 hours from harvest without residue problems. Intervals before harvest on other crops in chart.

Low toxicity to man and animals. According to the USDA, malathion is "one of the safest insecticides to handle." Unlike many other phosphates, malathion does not require

respirator or special protective clothing during mixing or application. Send for Grower's Handbook. American Cyanamid Company, Insecticide Dept. F5, N. Y. 20, N. Y.

MALATHION SPRAY CHART FOR SMALL FRUITS

PEST	AMOUNT				Interval (Days) Between Last Appli- cation and Harvest
	Emulsifiable Liquid Per 100 gals.	Wettable Powder 25% Per 100 gals.	Dust Per Acre	Residue Tolerance	
BLACKBERRIES — BOYSENBERRIES — DEWBERRIES — LOGANBERRIES — RASPBERRIES					
Mites,Thrips,Leathopper	1½ pts.	2 lbs.	—	8ppm	7
Japanese beetle	1½ pts.	4 lbs.	—	8ppm	7
BLUEBERRIES					
Cranberry fruit worm	—	2 lbs.	—	8ppm	1
Apply spray at rate of 250 gals. per acre. Make first application at egg hatch and repeat applications every 4 or 5 days until a total of 4 applications have been made.					
Cherry fruit worm	—	4 lbs. per 200 gals. per acre.	—	8ppm	1
Blueberry maggot	—	—	25 lbs. 4%	8ppm	1
Repeat applications as needed.					
CURRANTS — GOOSEBERRIES					
Mites	—	2 lbs.	—	8ppm	3
Japanese beetle	—	4 lbs.	—	8ppm	3
GRAPES					
Leafhopper	1½ pts.	1-1½ lbs.	20-40 lbs. 4%+sulfur	8ppm	3
Spider mites	1½ pts.	—	20-40 lbs. 4%+sulfur	8ppm	3
Make 2 or more applications as needed.					
Mealybugs	1½ pts. (50-100 gals.)	—	—	8ppm	3
Injury may occur on Ribier grapes with Emulsifiable Liquid.					
STRAWBERRIES					
Aphids	1½ pts.	2½ lbs.	40 lbs.	8ppm	3
Spider mites			4 or 5%		



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In pre-bloom sprays, combine Captan and Stauffer's Mag 70 sulfur paste to knock out mildew. Use Karathane* instead of sulfur in post-bloom sprays.

Captan not only stops scab, but also checks fruit rots and other summer diseases. It pays for itself many

times over in better quality fruit . . . fancy finish . . . heavier harvests.

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to harvest time ripeness. Even the heat-damaged peaches with soft sutures arrived in good shape.

Shippers and receivers as well as the Baltimore and Ohio Railroad, which furnished the cars, were enthusiastic about the handling afforded by the cars. Plans are underway on additional innovations for 1958 which should make it even more attractive to ship peaches by rail.—*R. L. Winklepleck, Horticultural Agent, Baltimore and Ohio Railroad.*

Citrus

Smog

VITAMIN C, the anti-scorbutic vitamin abundant in fresh fruits and vegetables, may be used in the future to protect those same fruits and vegetables from smog damage.

Air pollution has been shown under experimental conditions to reduce citrus tree growth and impair water use. Now studies by University of California scientists indicate that in addition to reduction in growth, chlorosis and also a substantial amount of leaf drop may be caused by small amounts of fluorides in the air.

Another recent finding is that ethylene occurs in the polluted atmosphere under certain conditions at concentrations of 0.1 to 0.2 parts per million for varying periods of time. This indicates the possibility that prolonged exposure of lemon fruits in the field to ethylene at low concentrations may adversely affect maturity of the fruit and also its ability to be stored and marketed properly.

Studies to determine the possible effect of ascorbic acid in protecting citrus from smog damage are in progress. Sprays containing vitamin C are already being applied experimentally to green leafy vegetables. Celery plants sprayed in Orange County, California, showed a reduction of from 28% leaf surface damage to 3% damage when sprayed with vitamin C.

Nuts

Bigger, Better Yield

SUPPLEMENTAL irrigation in an East Texas pecan orchard in 1956 resulted in larger sized nuts, higher per cent kernel, and higher specific gravity compared with check trees.

The experiment was conducted in a 47-year-old orchard of the Stuart variety and is reported by A. O. Alben, of USDA, in the 1957 Proceedings of the Texas Pecan Growers Association.

AMERICAN FRUIT GROWER

PEACH PICTURE

(Continued from page 10)

plantings of all varieties in this area have been substantial. However, I don't believe over 20 or 25% of the new plantings in the Piedmont area have been of the early cling varieties. The picture, however, is entirely different in the lower part of the state. This includes the Ridge Springs, Johnston, and Allendale sections. New plantings in these areas in the last two or three years have been heavy, particularly in the Allendale section, and it is estimated that approximately 75% of these new plantings have been of the early cling varieties. Recent estimates show a total of approximately 1½ million peach trees in these sections. It appears now that the Allendale section, which has the largest plantings of early cling varieties, will ripen along with the Fort Valley, Ga., area, and, of course, what the market reaction will be to the combined volume of these two areas in the next several years is speculation."

In the South as a whole, one well-posted correspondent says the percentage of sales by varieties last year showed; Cardinal, 12%; Dixired, 14%; Coronet, 15%; Keystone, 11%.

Spread of Varieties—Emphasis should be placed upon one other basic trend which is taking place and which is brought out clearly in the table: there is active interest in many of the states in "spreading the season" by planting early and late varieties. Georgia, for instance reports 17 varieties in commercial production and South Carolina, 26. Note especially the increase in the number of varieties being set which ripen after the early "color" list. Also, while Elberta holds fairly steady, Blake and Red-skin close to its season are coming up. Some varieties are falling off in popularity, including Golden Jubilee and Halehaven to mention only two, although the "national" group holds fairly steady. In Ontario the "V" varieties are grown extensively but are not included in the table.

The supply of early varieties will vary from year to year depending upon the many variables which affect the set and the crop from each variety. Better packages, better cooling equipment in the orchard and trade channels, and quicker deliveries all come into the picture; but above all there is a broader understanding of quality control, promotion, buyer acceptance, and general economic conditions now than ever before. The basic trends in the industry brought out in the table show how quickly things can change. Study the table for other important evidences of change.

THE END.

JUNE, 1958



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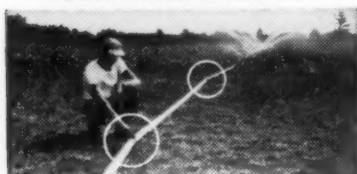
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INTEGRATION

(Continued from page 9)

fruit growing operations may remain relatively profitable even in a period of falling prices. The heavy demand for big capital in any modern farming business operation gives advantage to the organization with money.

However, recent studies of costs on fruit farms in western New York indicate that there is not much advantage in a moderately large operation over a small operation. The relatively small fruit grower gets high yields on the average and probably grows better fruit.

Some processors are suggesting that they process and sell for individuals or for a group of growers at a fixed rate per case which would include a reasonable profit for the processor. Other "open end" contracts are being proposed whereby a grower would be paid if and when the processed product brings a sufficient return to pay costs and profits.

This type of contract is being proposed in the citrus industry as well as in some deciduous fruit and vegetable areas. The purpose of this type of operation is to guarantee the processor a reasonable profit in an unstable business. However, *the grower takes on more risk when he wants less of it. The processor would under these conditions have even less interest in maintaining a raw product price.*

Consolidation of retail outlets and the development of supermarkets have made it practically impossible for the individual fruit grower to sell direct to the retailer. Even large growers find themselves competing with each other for the larger outlets.

The new intermediary, the fruit packer, who gets fruits and vegetables ready for sale in consumer packages (this is sometimes done by the store) is practically integrated right from the start. The large buyer, whether he wants to or not, actually "captures" his producer or packer. Even the larger co-operative groups compete with each other for such outlets.

Many chain systems take the entire output of the processor and have it packed under the chain label. This is a simple way to capture a processing plant and the processor without spending a nickel. In most cases the smaller processor is a willing captive and, in fact, there are so many processors who are willing that we have a surplus of processors almost begging to be captured. Again, competing for a market results in low prices.

A few chain systems operate their own processing plants. In some instances they may, in effect, have control of production so that there is complete vertical integration, from production through to the consumer.

The picture of an agriculture owned and operated by and for the distribution system may not be a pretty one as far as the consumer is concerned. However, if the distribution system is such that growers find it financially impossible to continue in the producing business, distributors or processors may have to operate farms to get supplies. *Fortunately there are alternatives.*

One answer is bigger and better grower co-ops. The grower co-operative group, the National Grape Co-operative Inc., appears to have an ideal setup for a modern grower-owned business. The Welch Grape Juice Company had developed over a long period of time a remarkable consolidation in the processing and selling of a nationally known high quality product.

With the help of some farseeing growers, the corporation was sold to National. The profits of the corporation were used to pay for the plant. The company is now owned by grape growers throughout the country, many of whom have more equity in the processing facilities than they have in their vineyard. Corporate profits are returned to growers, who are the stockholders.

A stabilizing umbrella has thus been held over the industry and, while individual grape growers can be found who think they should get greater returns for their grapes, the heavy plantings of Concord indicate that the operation is successful. The only thing that can lower prices will be overproduction of Concord. But even then there should be stability.

If growers can successfully maintain the co-operative type of integration, more of the profits in the food business can and will be returned to them and a healthy, strong agricultural economy can be maintained.

In the fresh fruit industry, larger, well-managed consolidated sales and packing co-operatives operated by growers and financed through banks and other sources of reasonable money should take over more of the business. Larger units for control of selling, organized by growers, will stabilize prices. Large-scale buyers prefer to deal with responsible groups of growers. If they can not find well-managed grower groups to deal with, the super stores may turn more and more to various forms of integration.

Growers can either meet integration by spending *some* of their time off the farm or they can meet it by spending *all* of their time on the farm. If they choose to be a part of the agribusiness integration, it should prove more profitable and interesting than just being a worker in a corporation.

THE END.

Shell Opens Enlarged Lab

Company steps up its research program in plant pesticide field

AN event of significance to agriculture and particularly fruit and vegetable producers occurred recently in Modesto, Calif., when Shell Development Company formally dedicated its enlarged agricultural research laboratory.

Located on a 142-acre experimental farm, the laboratory consists of 10 buildings of modern design, staffed with more than 60 research specialists and a similar number of administrative employees.

Shell's venture into research in the fields of plant nutrients, insecticides, fungicides, nematocides, and herbicides is illustrative of the increasing interest corporations are taking in basic research in the agricultural chemicals field.

The trend today is toward a company developing and selling its own patented trade name products. This makes it possible for them to get back the huge amounts of money spent in developing and introducing a new pesticide. S. H. McAllister, manager of Shell Chemical's agricultural sales division, estimates that bringing one insecticide into commercial use may cost over \$1.5 million and take four to five years or more.

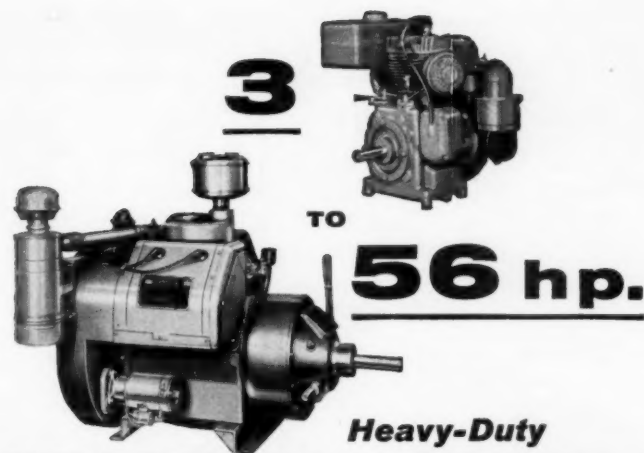
Visitors at the formal opening saw laboratories for plant physiology, plant pathology, entomology, organic chemistry, residue analysis, and nematology. It was revealed that Shell spends \$1.5 million a year on agricultural research alone. Products of this research include the newly introduced Phosdrin insecticide; the nematocides DD and Nemagon; and development of insecticides dieldrin and aldrin.

Two herbicides under development at Shell include SD 4777 for crab grass in lawns and aquatic herbicide F-98 for weeds in irrigation ditches and canals. This herbicide has the remarkable quality of killing vegetation which clogs canals but when it reaches the field being irrigated, it dissipates and no harm results to the crop. Where it may cost \$1200 to clear a canal of weeds by ordinary methods, it takes only \$500 with the herbicide, and the herbicide is reported to be twice as effective.

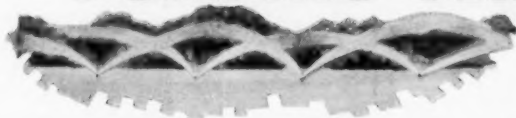
Dr. Harold Gershinowitz is president of Shell Development Co., and Dr. K. E. Marple is director of the research laboratories. **THE END.**

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JUNE, 1958



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SPRINKLERS GAINING

(Continued from page 12)

tion. With a little experience a grower can learn to judge quite accurately the amount of moisture in his particular soil.

Two types of instruments are also available for obtaining physical measurements which can be related to the soil moisture content. These are resistance blocks and tensiometers. A number of growers using these have been able to work out satisfactory irrigation schedules for their orchards. In areas of high water table some growers have installed test wells which facilitate taking measurements of the depth to water level. These readings have been helpful in determining when to start irrigating in the spring.

Growers who have changed from basin type irrigation to sprinklers are finding that the reduced amount of tillage required with sprinklers has brought about an improved soil condition. Considerable manipulation of the soil is needed to construct the levees needed for contour or basin check irrigation. Additional working of the soil is needed for knocking down the levees. As a result of these operations the soil structure deteriorates, water penetration into the soil becomes a problem, and production drops off.

With sprinklers the only tillage required is for controlling the cover crop and preparing the soil surface for harvesting where pickup machines are used. Many growers are reducing the amount of tillage even further by using a mower for controlling the cover crop. As a result of this reduced tillage the soil structure improves, better water penetration is obtained, and the trees show greater vigor. Limiting the amount of tillage together with the use of sprinklers helps to eliminate the dust problem in orchards. This probably has a beneficial effect upon the health of the trees and to some extent reduces insect problems.

The spacing of sprinkler heads in order to give uniform coverage of the irrigation water varies in different kinds of orchards. With closely spaced trees such as pears, peaches, and plums, it is common practice to have the sprinklers spaced at 20 feet along the lateral lines. The lines are then moved one or two tree rows for the next setting. With wider spaced trees and those with higher first branches, such as almonds and walnuts, it is the usual practice to ignore the tree spacings in planning the sprinkler layout. Sprinklers may be spaced at 30 or 40 feet along the laterals, and the lines may be moved

40, 50, or 60 feet. It is important to use the proper pressure and nozzle size for the spacing selected.

The most efficient use of sprinkler equipment is obtained where the grower operates his systems nearly continuously during the summer months. This permits purchasing a minimum amount of equipment. The water supply needed to irrigate the orchard can be matched closely to the amount of water used by the orchard. Where pumps are required, it is cheaper to operate a small pump long hours than to operate a large pump only part of the time. By using two 12-hour settings or one 24-hour setting of the sprinkler lines each day, the movement of the pipe becomes a chore rather than a full time job.

It is often found that the labor required for moving the sprinkler lines is less than that required for



Wheel tow system with high risers being used for overtree sprinkler irrigation of peach orchard.

surface irrigation. This is particularly true when the costs for operating a tractor needed for constructing the levees or irrigation furrows are included.

Applying fertilizers through the sprinkler system is another practice which is gaining favor. Most of the commercial nitrogen fertilizers are soluble in water. Injector systems utilizing the Venturi or Pitot principles are available for introducing the fertilizer solution into the irrigation water. The application should be made during the early part of the irrigation run so that any fertilizer remaining on the leaves of the trees can be washed off by the subsequent water. Fertilizers containing free ammonia should not be applied through sprinklers because of possible high loss through volatilization.

Whether or not sprinklers should be used should be determined by balancing the costs of the various methods of irrigation against the expected crop production to see which method will bring the greatest net return to the grower.—L. J. Booher, Agricultural Extension Irrigationist, University of California, Davis.

AMERICAN FRUIT GROWER

SILENT PARTNER

(Continued from page 13)

leaves and lower limbs apparently discourages the buildup of red spider.

The furrowing-out before irrigating used to take about two days' time. Land preparation before irrigating is now a minor item. A very light disking or cultivating is done to rough up the surface a bit. This work is, of course, done across the slope, not up and down. This practice helps to reduce runoff on the slopes. When weed growth is heavy enough, the water is held without having to disk. Light disking is much less expensive and does less soil compacting than deep tillage. More surface feeding can be done by the tree now than formerly.

The water used in the Rietveld orchard is supplied by the Oakdale Irrigation District. As in many other irrigation districts, water is delivered in a rotation system with other growers. Instead of taking a large volume of water for a short period of time, a small amount is now used for several days. The amount needed does not materially reduce the amount going to other growers in the area and yet speeds up their frequency of water availability. This fits into the irrigation district's operation rather well, inasmuch as the orchard is on a main line which always has water in it.

An underground pipeline, which was a part of the former irrigation system, delivers the water to a sump. From here it is pumped by a 15 hp electric motor into 5-inch and then 4-inch feeder lines. These in turn supply water to the 3-inch lines on which the sprinkler heads are located. Pressure on the line at the pump varies from 60 to 64 pounds per square inch.

Some of the advantages of a sprinkler system come at harvest-time. Sprinkling allows an irrigation much closer to harvest, which can be important in dry years. The orchard is smoothed after the last disking by the use of a float. A light sprinkling of perhaps an inch of water is then applied to firm the surface. This wetting provides a firm, smooth surface from which to harvest the nuts. Such a ground surface is a distinct advantage, whether the nuts are picked up by a machine or off of canvas sheets which are laid out under the trees before they are knocked.

Almonds are knocked by hand from the trees by the use of rubber mallets. This job can be a real workout on a hot, dry day. Where the leaves are kept green by the use of

sprinklers, the knocking job is no longer a dusty one. Crews at the hulling shed also appreciate the handling of dirt-free almonds. Cleaner, healthier leaves at harvest mean less leaf drop during the knocking process. Leaves in the harvested nuts are a nuisance and must be separated out.

Now that the irrigation water can be controlled, the low spots in the orchard have been replanted. There is little reason to believe trees in these sections will be drowned out. Before sprinklers were used in hilly orchards, growers soon gave up trying to maintain trees in low areas. Wasted land was just part of the game. This is no longer the case in the Rietveld orchard. High sections no longer run out of water. The quantity and quality of almonds produced in the high spots is now equal to that elsewhere in the orchard.

All things considered, sprinkler irrigation has solved many production problems for the Rietvelds. Complete control of irrigation water is now an easy matter. Labor is not a problem during the irrigating season. Harvest is made much easier and the crews are easier to maintain in dust-free orchards. Sprinkler irrigation has given Leonard Rietveld a sense of accomplishment and independence.

THE END.

FRUIT BREEDER DIES



PROF. Harvey L. Lantz, 69, a faculty member of Iowa State College for 41 years, passed away April 3 at Ames.

Well known to growers throughout the nation for his work in fruit breeding, Prof. Lantz introduced a total of 12 new apple varieties, one of plums, and one of pears. He had recently received wide attention for the development of the Jonadel apple.

Prof. Lantz joined the ISC faculty as an assistant in the Agricultural Experiment Station in 1917. He became a member of the graduate college staff in 1945, and in 1946 he was named associate professor of horticulture. He was made head of the pomology subsection in 1947, a position he held at the time of his death. He was also in charge of Bluffs Experimental Fruit Farm.

He served as secretary of American Pomological Society for about 15 years, and in 1946 and '47 he was president of Iowa State Horticulture Society.

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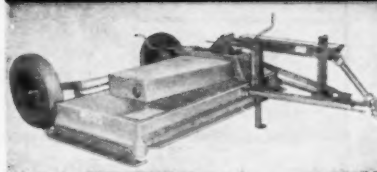
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Besides the 80" offset model shown above, there is an offset adapter package for another pull-type 80" model to provide both center and offset hitch. Also 42" under-mounted for Farmall, Cub, Lo-Boy, Super A, 100, 130 and A-C G. 42" rear-mounted for Fast-Hitch Cub and Lo-Boy. 60", 61" and 80" rear-mounted for larger Fast-Hitch Farmalls (61" and 80" use 3-pt. adapter), 60" for A-C D-14, D-17, WD and WD-45, and all standard 3-point hitch tractors (Ford, Ferguson, Oliver Super 55, etc.). 60", 61", 80" and 114" draw-bar pull-types for any 2, 3 and 4 plow tractors, and Jeeps. All have free-awinging blades.

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26806 S. 4th Street • Oregon, Illinois

LIFT 'EM—HAUL 'EM—LOAD 'EM EASILY with a HENDERSON



- * Lifts over 2000 lbs. nearly 9 1/2 feet high.
- * Exclusive "5th Cylinder" keeps load level to top height.

Fits Most
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With Platform

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CEDAR RAPIDS, IOWA



The AP-PEACH PICKING BAG

Saves Time — Reduces Bruising

Heavy canvas over rigid frame protects fruit. Empties quickly through bottom. Especially for peaches and easily bruised apples. Write for folder.

JOHN C. BACON CORP., GASPORT, N.Y.

ZON SCARECROW

Positive protection. Uses carbide or acetylene. No pilot. Retail \$59.50. (Dealerships available)

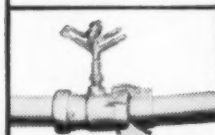
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Connect or uncouple pipe
from standing position.



Pushing ends together
makes a water-tight seal.

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Water an acre or square mile—at the right time—in the right amount. Plan your moisture program to the crop—and plan your irrigation system to the moisture schedule your crops need.

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NEW FOR YOU

German Truck Tractor



Fruit growers in Germany are using a new machine which might interest you. The famous Mercedes Benz Corp. of Germany has developed a truck tractor which is ideal for the fruit grower. Called the Unimog, this machine will just about do everything except pick the fruit. A 1-ton load can be transported on the machine, which is powered by a most efficient diesel engine. The Unimog is a 4-wheel drive machine with power takeoff. Picture at top is the Unimog equipped



with a high concentrate sprayer which is driven by the rear power takeoff shaft. The center picture shows how the Unimog carries fruit to the packing shed or to market. The machine maintains a road speed of over 30 miles per hour. Versatility is built throughout the Unimog, as shown in bottom photograph, and like



AMERICAN FRUIT GROWER

- Automatic Timer
- Power Weeder

all Mercedes Benz products, the machine is built of heavy steel to last many years. Diesel power makes it efficient and cheap to operate. Should you want more information, write Mr. Zane, Daimler-Benz AG, Stuttgart-Untertuerkheim, Germany.

Timed Irrigation

Putting on the right amount of water at the right time is important, as most growers know. It was always a chore to shut down the irrigation system at a specified time. Now it can be done automatically by using the Time Switch. This switch is connected to your pump, and can be preset for any interval from minutes to 12 hours—either to turn the water off or on. Why not get full details on this unique switch by writing M. H. Rhodes, Inc., Bartholomew Ave., Hartford, Conn.



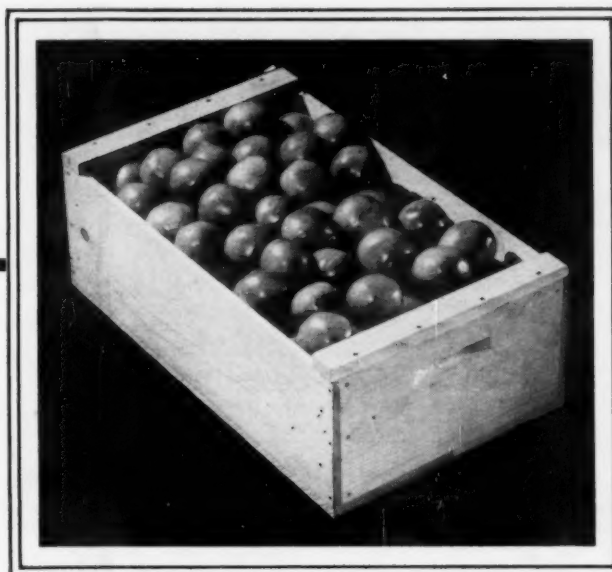
Be sure to mention **AMERICAN FRUIT GROWER** when writing to manufacturers.

Weeding Strawberries



Out in Salem, Ore., big strawberry grower Marvin Van Cleave tells us that by using a new oscillating weeder he has weeded 1 acre of berries per hour, saving from \$50 to \$100 per acre annually. The new weeder eliminates 90% of the hand labor formerly necessary and, what's more, the machine cultivates as it weeds. In actual tests the better growth was observed because of the mulching effect the machine accomplishes. This machine is doing an exceptional job for many strawberry growers. If you will write Armor Bartlett, Armor Farm Implement Co., P. O. Box 785, Vancouver, Wash., he will give you all of the facts. Do it today!

JUNE, 1958



FOR MORE ECONOMICAL HARVEST OF MANY CROPS STANDARD NAILED PICKING BOXES

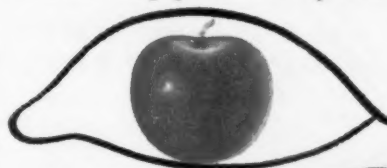
- Palletized Movement • Compact Storage
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- Long Life Span • For All Soft Fruits

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Here's the apple of your eye!



Protected by **Ryania**
till the instant it was picked!

Grow better-looking, unblemished fruit! Your apples will show less pitting, fewer scars if you combat codling moth all season long with Ryania!

- Ryania leaves no harmful residues. It's exempt under the Miller Bill for spraying right up to harvest!
- Ryania encourages beneficial insect species.
- Ryania is fully effective against resistant strains!
- Ryania doesn't injure plant tissues!
- Ryania is non-hazardous to use!

Your dealer can supply your requirements now. Or write to Penick for further information.

*Patent Nos. 2,400,295 and 2,590,536

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ROOMS from—
\$4 per day single
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IDEAL HARNESS for CHERRY and BERRY PICKING BUCKETS



\$1.10
Each

Adjustable, Medium Weight Webbing - Nickel Plated Snaps and Buckles
Featuring the equalizing loop which compensates for shifting of load.
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SPRAY COMPATABILITY CHART

ALL NEW CHART FOR 1958

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Order today!

AMERICAN FRUIT GROWER
Willoughby, Ohio

MARKETING

AN AMERICAN FRUIT GROWER REPORT

Taken by Surprise

NEWS that the Washington State Apple Commission will withdraw its support of National Apple Institute has taken industry leaders by surprise.

Washington applemen want NAI and International Apple Association to join hands in the interests of economy and efficiency before they will entertain consideration of continued financial assistance to a national apple program.

Look for this problem to be the No. 1 item of business at the coming NAI meeting scheduled for Washington, D.C., on June 18-20. Washington apple growers contribute nearly a third of the national apple promotion budget and without this money there would be a serious crimp in apple promotion for the season of 1958-59.

In addition, Washington State Apple Commission agreed to support the basic administrative budget of the NAI for only a three month period which ends October 1, such extra time to allow NAI officials to negotiate a single national apple trade association.

It is hard to anticipate what effect the Washington decision will have. It is no secret that Washington leaders have been dissatisfied with the size of the national apple promotion budget. The decision was made undoubtedly to stimulate more vigorous advertising of the healthful qualities of apples, a need acutely felt by Washington growers this past winter when prices for their apples were at low levels.

Nothing Like a Map

PUBLICATION of the "Guide Map to Illinois Fruit" is only one of the projects carried on by the Illinois Fruit Council to promote sale of the state's fruit. The maps are distributed to marketing outlets and show the areas and variety of production in the state. Photographs on activities conducted by the council in promoting Illinois fruit are also featured.

Citrus vs. Apple Rates

INEQUALITY OF freight rates was discussed at the recent annual meeting of New York State Horticultural Society. A resolution was passed requesting the Interstate Commerce Commission to study the rates, which allow Florida citrus fruit moving north to carry lower express and freight rates than northern apples moving south into Florida.

Good Example of Integration

INTEGRATION is an important word in farming today. The experts say that the effect of integration can be either good or bad. If you are being integrated, the effect is not so good.

California Canning Peach Association has decided to take matters into its own hands and is a good example of what can be done. Its annual report for 1957 traces the history of the organization and the problems to be faced in the future.

The report shows that the number of canneries that purchase peaches is rapidly diminishing and control is going more and more into the hands of a few large canners.

Because of this, the association has started the formation of California Canners and Growers (Cal Can), a grower co-

AMERICAN FRUIT GROWER



J. V. Vernon



S. H. Bear

FMC ANNOUNCES STAFF CHANGES

FOOD Machinery and Chemical Corp. has announced the promotion of three staff members.

Jackson V. Vernon has been advanced from the presidency of Niagara Chemical Division to membership on its Chemical Divisions Executive Committee. He now has functional responsibility for marketing and distribution in FMC's chemical divisions.

Stuart H. Bear, Middleport, N. Y., who has served as vice-president of Niagara Chemical Division and manager of the Agricultural Department, has been appointed manager of Niagara Division, with headquarters in Middleport.

Dr. Oscar H. Johnson, Medina, N. Y., formerly director of research and development of Niagara Division, has moved up to the position of research and development director of Organic Chemicals Department of FMC. His new post includes management of the research department at Niagara Division.

operative processing plant operation.

By buying existing canneries, by having top-flight management, and by providing a variety of products to be canned, it is hoped a strong, substantial co-operative cannery will give growers a measure of control over their market.

Cal Can now has the support and sponsorship of all the major canning crop associations in California, including California Canned Pear Association, California Tomato Growers Association, and Asparagus Growers Association.

If Cal Can lives and grows, integration will have a good meaning for these growers.

Another Boost

APPLE promotion will get another boost next year if New York & New England Apple Institute carries out its proposal to increase the per bushel promotion rate to 5 cents.

Meeting recently in Sturbridge, Mass., directors agreed to maintain the present 3-cent rate. However, the need for more sustained advertising has prompted the group to propose a 5-cent rate for financing the 1959 promotion program.

Health Value

MODERN SWEET CIDER and apple juice leave behind, in the human system, an alkaline residue, universally agreed to be an aid in recovery from colds, influenza, and other virus infections, according to Dr. Harold F. Pierce, research consultant, National Apple Institute.

"FRESH AS THE DAY THEY WERE PICKED"

Dehydration can be overcome by proper humidity and temperature conditions. Frick equipment, specifically designed to suit your needs, will enable you to keep your products in storage perfectly over a long season.

Excellent condition after eight months storage.



New Frick Prestfin Coils solve the humidity problems found in most areas. Their use is the simplest, most foolproof and most economical way to keep fruit at maximum weight and in prime condition.

Get full details now: write for Bulletin 158 on Prestfin coils or call your nearest Frick Branch or Distributor.

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MAPLE BEND NURSERY
FRUIT TREES ORNAMENTAL
SMALL FRUIT PLANTS TREES AND SHRUBS
Also Dwarfs in the Popular Varieties

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For Sale

4,700 Wooden Beer Cases in very good condition. They hold approximately 3/5 bu. Excellent for peaches. Sell any or all at 25 cents each. Contact Ralph Cates, Fieldon, Ill.



Loosco "BANG" BIRD SCARERS

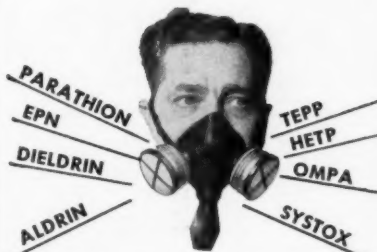
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Write to:
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A complete line of orchard tools, equipment and chemicals.
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This Respirator Protects Against 8 Toxic Sprays

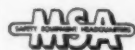


THE M-S-A FARM SPRAY RESPIRATOR

Here's the one Respirator that makes outdoor spray programs safer. New type filters keep users on the safe side of toxic sprays. Replaceable with in-use M-S-A Farm Spray Respirators. Accepted by U. S. Government Interdepartmental Committee on Pest Control. Write for details.

M-S-A GMC-1 INDUSTRIAL GAS MASK—For heavier mixing concentrations of all the above organic insecticides. "All-Vision" facepiece gives full facial protection—maximum vision.

DEALERS WANTED—Current customers are your best prospects. Cartridge and filter replacements mean repeat business. Write for details.



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201 North Braddock Avenue
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I bought BUCKNER RAINERS because...



I've watched Buckner Rainers in action and know they give long-lasting dependable service. They are designed trouble-free to give

years of rugged service under toughest field conditions.

Besides, Buckner's GDG bearing was the original teflon washer bearing. Teflon and rubber washers absorb wear. You get continued even rotation, protection from water borne silt, and extra years of service. Buckner's Rainer is a great sprinkler.

Buckner originated the sealed sprinkler bearing. Buy Buckner Rainers from your sprinkler irrigation system dealer.



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GROWERS OPPORTUNITY PAGE

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THE HOW-TO BOOK ON STRAWBERRIES. The layman's primer, the professional's reference and everyone's factual guide to more and better strawberries. \$1.50. AMERICAN FRUIT GROWER, Box 159, Willoughby, Ohio.

FOR EDUCATION, PLEASURE AND profit, read "ADVENTURES IN BEEKEEPING." A true story. \$2.00. ROBERT OGLESBY, R.R. 1, Middletown, Ohio.

BERRY BOOK: "THIRTY YEARS OF BERRIES." Raspberries and Strawberries. 84 pages, price \$1.00 P.P. ROY TURNER, 1525 S. Livingston St., Peoria, Ill.

FREE WHOLESALE CATALOG. 100,000 products. Tremendous discounts. ECON-O-MART, Whippany 24, New Jersey.

TOMATO GROWERS—JUST PUBLISHED 1958 American Tomato Yearbook. Crammed with important facts. Send \$2.00. Complete volume, 1951-1958, \$10.00. AMERICAN TOMATO YEARBOOK, Box 540-F, Westfield, New Jersey.

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CASH FROM SAWDUST, TIN-CANS, NEWS-papers. Over 200 methods. Instructions \$1.00. CHARLES COMPANY, 12-XTT, Norwood, Ohio.

UP-TO-DATE SWISS HYDRAULIC CIDER and wine presses. Pasteurizers. You'll get more juice per fruit-pound. Write to: RUD. ZORN, 509 W. Fifth Street, Los Angeles 13, California.

EARN CASH FROM STRAWBERRY SALES! Get our How-To Book on Strawberries that gives common sense treatment of the must and must-not in strawberry culture. Fully illustrated. \$1.50. AMERICAN FRUIT GROWER, Box 159, Willoughby, Ohio.

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MODERN AUTOMATIC ELECTRIC CIDER presses for roadside stands and small orchardmen. Presses 10 gallon to 15,000 gallon capacity. Everything for the cider maker, ball bearing graters, press racks, cloths, packing, valves, labels, filters, pasteurizers, bottling equipment. Write for supply catalogue. W. G. RUNKLES' MACHINERY CO., 185 Oakland St., Trenton 8, N.J.

ONE CIDER MILL, MOUNT GILEAD, SIZE 36 inch press. Good condition. E. S. FOX, JR., Afton, Virginia.

SANITARY CIDER MAKING EQUIPMENT. Write for our latest catalog showing containers, fillers, cider supplies, filters, Palmer presses and parts for all mills—featuring the newest of Easy to Clean high capacity graters. ORCHARD EQUIPMENT AND SUPPLY COMPANY, Hill Street, Bristol, Connecticut.

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TWO BEAUTIFUL OILCOLOR 8x10 ENLARGEMENTS from any photo or negative (returned) \$1.00. PORTRAITCO, A780, Sweetwater, Texas.

FOR SALE—EQUIPMENT & SUPPLIES

SAVE up to 40% on—CHRYSLER INDUSTRIAL-IRRIGATION UNITS. Our own special irrigation unit costs only \$1695.00, and includes CHRYSLER's big 354 cubic inch V8 engine plus all the accessories to make it run. 6 cylinder units as low as \$1395.00. Write for information. Dealer inquiries invited. Midwest Parts Corporation, Box 394, Gary, Indiana.

LARGE SIZE NIAGARA FRUIT AND VEGETABLE grader with brush. Excellent for apples or tomatoes. GALLIA FRUIT GROWERS, Gene Plymale, Gallipolis, Ohio.

1 500-GALLON HARDIE ENGINE POWERED trailer sprayer. Equipped with Waukesha engine and Hardie Blo Spray in A-1 condition. Ready to go. Call collect—Lebanon 3-2616 Pennsylvania, if interested. ELMER E. PLASTERER, R. D. 5, Lebanon, Pennsylvania. Farm Machinery Dealer.

New and remanufactured INTERNATIONAL HARVESTER ENGINES and POWER UNITS. Special spring clearance sale. Midwest Industrial Company, 835 No. Capitol, Indianapolis, Indiana.

FRUIT TREE OWNERS—BE WISE! EQUIP your trees with our SIMPLEX re-enforcing rigging. It lasts a life time—makes weak trees strong. Prevents storm damage and carries the fruit load to maturity. Do-it-yourself plans, one dollar. We sell essential parts (patented) at rock bottom price. For full information, write L. P. CALDWELL, Box 408, Independence, Missouri.

SENSATIONAL GARDEN TRACTOR. HOES between plants and rows, including strawberries. Eliminates hand hoeing. Nothing else like this. Patent 2742840. Also tills. Fantastic offer to first few inquiries. AUTO HOE, DePer 8, Wisconsin. DOZER BLADES and LOADERS FOR D2, D4, TD6, TD9, HD5, HD6, Cletrac A, B. Write for literature and price. WAYNE R. WYANT, New Bethlehem, Pennsylvania.

MUST SELL MYERS SPRAYER 300 GALLON capacity. Niagara apple grader and polisher. one pruner, single unit. 3,000 apple boxes. 500 gallon water tank. Inquire MEDINA PACKING CO., Litchfield, Ohio.

LIKE NEW—ALLIS-CHALMERS H 48 H.P. gasoline power unit. Used 35 hours. Outboard mounting. 10" pulley with clutch and electric starter. One half price. F.O.B. Northome, Minnesota for cash. MOSS PRODUCTS CO., Northome, Minnesota.

BUY SURPLUS DIRECT FROM GOVERNMENT at tremendous savings, farm tools, machinery, truck, jeep, tractor, power units, hundreds others listed in our bulletin. Price \$1.00. GOVERNMENT SURPLUS SALES, Box 169ARG, East Hartford 8, Conn.

HARDIE CONCENTRATE SPRAYER—RE-conditioned Nu-Way power pruner. LEO C. WEINGART, 2082 Braewick drive, Akron, Ohio. Phone UN 4-5500.

SEVERAL GOOD USED POWER SPRAYERS (Myers and Bean) which have been traded on new Myers Concentrate Sprayers to our Ohio dealers. Let us know your needs. WATER SUPPLIES, Ashland, Ohio. Phone 21565.

WOOD LETTERS FOR ATTRACTIVE signs. Inexpensive. Permanent. NORTHLAND PRODUCTS, Route 1282-S, Rockland, Maine.

1947 BEAN SPRAYER 15 GPM, P.T.O. DRIVE 200 gallon steel tank. Good condition. DUMAS ORCHARDS, Long Lake, Minn.

CHRYSLER ENGINES AND PARTS for John Bean and Speed Sprayers plus other equipment, in stock. Immediate delivery. Midwest Parts Corporation, Box 394, Gary, Indiana.

4 ROLL PEACH GRADER COMPLETE WITH brushes, blower—electric motors—Durand 2-belt conveyor to tubs, automatic basket turner. Stand-ard gravity conveyors. Also 2-roll Niagara peach grader all in good condition. Price so you can afford to move. H. B. SEAGER, Farina, Ill.

FOR SALE: DURAND 2 ROLL PEACH Brusher and grader. Also brushes and sizes apples. Used less than fifty hours, A-1 condition. Complete with electric motor. Cost—New \$1,600, Bargain Price \$850. Herman Schmell, Star Route 2, Mulga, Alabama.

NIAGARA PEACH GRADER COMPLETE with 24 in. Trescott brush, roller conveyor, exhaust fan, eight man take off table and three motors. Capacity: 250 bushels per hour. Lancelot Jacques, Smithsburg, Maryland.

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PEAFOWL, SWANS, PHEASANTS, GUINEAS, Waterfowl, Bantams. Thirty varieties pigeons. JOHN HASS, Bettendorf, Iowa.

GARDEN SUPPLIES

PROTECT YOUR BERRY CROPS. CHEESE-cloth 150 yards by 36" in convenient 15 yard lengths. \$7.00 prepaid. 50% less mill price. MIDCITY, 138 East 34th Street, New York.

HELP WANTED

WANTED: MAN WITH AMBITION To help run profitable farm market. Advancement potential. Location: Southern New Jersey near Philadelphia. AMERICAN FRUIT GROWER, Box 189, Willoughby, Ohio.

INVENTIONS WANTED

ARE YOU INTERESTED IN OFFERS FROM reliable manufacturers for your invention? Patented, unpatented. HARVEY ASSOCIATES, Dept. 7A, Cambridge, Maryland.

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BANANA PLANT, GROWS ANYWHERE—indoors, outdoors. \$1.50. Postpaid. P. SULEN, Ladylake, Fla.

1,000 BUSINESS CARDS \$4.00. THREE LINE rubber stamp \$1.00. REGAL, Crooksville, Ohio.

BERRY BOXES, BROWN KRAFT, FIBRE-board. Quarts \$14.50, pints \$12.50 per M. Freight collect. RONALD PENNINGTON, Rockford, Michigan.

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SEW APRONS IN YOUR HOME, PROFIT-ably. Write ADCO, Bastrop, Louisiana.

QUILTING? REMNANTS? NINETEEN varieties. Free sample. Three yards nylon \$1.00. Postpaid. RAINBOW, Estill Springs, Tenn.

WEAVE RUGS—MAKE GOOD PROFITS! No experience necessary! FREE catalog, sample card, and low prices on carpet warp, rug filler, looms, parts, inexpensive beam counter. If you have loom—give make, weaving width please. OR. RUG COMPANY, Dept. 3877, Lima, Ohio.

SEND US RAW WOOL FOR BLANKETS. Details free. WEST TEXAS WOOLEN MILLS, 439 Main, Eldorado, Texas.

LEARN PROFESSIONAL CAKE DECORAT-ing. Details free. DECO-SECRETS, Venice 33, Calif.

ORCHARD FOR SALE

30 ACRES APPLES, 2 BEDROOM HOME (modern). Double Garage Attached. Sheds. Barn. Sprayer. Ferguson tractor. Boxes. Wonderful investment property. Across street from housing development. (Lots in development ALL sold for \$1800.00 each). DON J. SHADE, Highland Orchard, Ottawa, Kansas.

FOR SALE: ESTABLISHED FLOWER, VEG-etable and fruit farm located on Big Stone Lake in Western Minnesota. Complete equipment and tools included. For particulars write to: Schneek Agency Inc., Ortonville, Minnesota.

100 ACRE PEACH ORCHARD IN HEART of the East Texas marketing area. Seven varieties. Modern home, packing shed, orchard equipment. Selling on account of health. Very good buy and priced to sell. More information on request. Box 864, Jacksonville, Texas.

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BURPEE'S "BIG BOY" F-1 HYBRID TO-mato plants. Live delivery guaranteed. 12—\$1.25; 50—\$3.75. Postpaid. FRANCIS W. PETRIE, 411 South Ravenel, Columbia, South Carolina.

NEW HYBRID DAYLILIES BLOOM 24-48 hours. Seeds, 20 for \$1.00. PHILIP O. BUCH, 104 Rockaway Ave., Rockaway, New Jersey.

RABBITS

RAISE ANGORA, NEW ZEALAND RABBITS or mink on \$500 month plan. Free details. WHITE'S RABBITRY, Delaware, Ohio.

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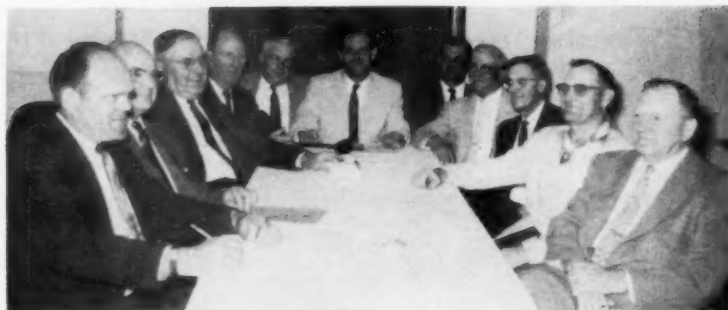
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Add to your income by selling AMERICAN FRUIT GROWER. Write today for our liberal nursery agents' plan. Address:

EDWARD MEISTER, Circulation Manager
AMERICAN FRUIT GROWER
Willoughby, Ohio

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HEAD NEW PEACH COUNCIL

Officers and directors of newly-organized Georgia Peach Council are (left to right) Ray Livingston, Athens, secretary; C. L. Mason, Madison; W. A. Meadows, Cochran; Willis Harden, Commerce, second vice-president; Walter Williams, Gray; H. Grady Riggins, Woodbury, president; Jim Brown, Montezuma; Curtis Woodson, Thomas, treasurer; C. W. Hood, Commerce; Edgar Duke, Jr., Ft. Valley, first vice-president; and J. F. Duke, Sr., Ft. Valley. Two other directors, Ralph Tabor, Perry, and John Walker are not shown. Purpose of the council, comprising nearly 50 charter members, is to promote, advance, and protect the growing, harvesting, and marketing of peaches.—Pauline T. Stephens.

STATE NEWS

(Continued from page 14)

Peach Size

GEORGIA—At a recent meeting in Macon, Georgia Peach Marketing Industry Committee established a regulation to the effect that peaches shipped by growers in the state this year must be as large as 1 3/4 inches or upward. The grade regulation was set for 85% No. 1's, except split pits. The crop was scheduled to start moving to market about two weeks later than usual due to late cold weather.—Pauline T. Stephens.

Life-Saver

MISSOURI—If Diazinon, a new phosphate insecticide, retains its long residual toxicity under drought conditions, it will be a real lifesaver to apple growers in the Midwest plagued by codling moth.

Although the combination of DDT fortified with parathion or EPN is still popular in the Midwest, use of these materials often necessitates shortening the interval between sprays to get commercial control. Control is also unsatisfactory under conditions of high temperature and low humidity (drought) when DDT appears to break down rapidly. In Missouri and much of the Midwest, scarcely a summer passes that does not include at least a two-week period of drought. Strains of codling moth resistant or tolerant to DDT have also appeared.

Four years of experiments at University of Missouri indicate that Diazinon is perhaps most effectively used by itself rather than to fortify DDT. The principal reason

be replaced by a phosphate for second and third brood codling moth control.

Diazinon fits well in such a program and now has federal sanction for use to within 14 days of harvest on apples and 10 days on cherries.

The Food and Drug Administration has set a tolerance of 0.75 ppm for residues

EXPAND FARM HOUSING LOANS

Farmers Home Administration can now make farm housing loans for periods up to 33 years at 4% interest to eligible farm owners. Loan funds may be used to construct, improve, alter, replace, or repair farm homes or farm service buildings, or provide water for farmstead and household use. Owners may use the money for themselves, their tenants, or laborers. The expanded program now makes loans available to owners of farms in agricultural production who plan to produce at least \$400 worth of commodities for sale or home use, based on 1944 prices.

on these crops. In tests on apples in Missouri, the highest residue obtained was 0.28 ppm on Wealthy, seven days after the last of four applications, which is well below the official tolerance.

Manufactured by Geigy Agricultural Chemicals, Diazinon is relatively expensive, but it appears to be well worth the cost, since it controls virtually all the apple pests. As its use becomes more general, the cost probably will be reduced sharply, the more so as additional uses are sanctioned by USDA and FDA.

In the Missouri experiments, Diazinon was used to good advantage on Starking, Jonathan, Champion, Golden Delicious, Transparent, Wealthy, Red Delicious, and Black Ben apples; on Early Richmond and Montmorency cherries; on Omaha, Damsen, and Italian Prune plums; on Fredonia, Ontario, and Concord grapes; on Golden Jubilee and Belle of Georgia peaches; and on sweet corn.

Besides codling moth, Diazinon has been effective against plum curculio, scale insect crawlers, aphids, mealybugs, grape berry moth, grasshoppers, and corn earworm. It is not as effective against red-banded leaf roller as might be desired.—Wilbur R. Enns, University of Missouri.

Named to Apple Post

NEW JERSEY—E. Richard Manzano, formerly of Washington, D. C., took over his duties last month as secretary-manager of New Jersey Apple Institute. The appointment combines for the first time the promotional, sales, and merchandising activities of the institute under one full-time head. Manzano directed public relations and promotion programs several years for International Apple Association, Inc.

INSECTICIDE HANDBOOK AVAILABLE
USDA's official handbook, *Insecticide Recommendations for 1958*, is now available. The publication contains insecticide recommendations for each specific crop. This information is important because of the Miller law, which prescribes how much of any insecticide can remain on a crop when marketed. Write Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price is 55 cents per copy.

for this is that more problems arise the longer DDT is retained in the spray program. DDT is remarkably tenacious and must be discontinued at least a month before harvest to avoid excessive residues. It also encourages build-up of destructive populations of mites, aphids, scale insects, leaf rollers, curculios, mealybugs, and other noxious insects, but is efficient in eliminating beneficial bees, wasps, and other parasites and predators.

DDT should be restricted to early season (first brood codling moth) use on apples since it is less likely to cause russeting than the organic phosphates, and should



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